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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:08 ; Search time 61.6154 Seconds
(without alignments)
115.924 Million cell updates/sec

Title: US-09-266-543-1
Perfect score: 239
Sequence: 1 YCKNGGFRLRHPGRVDGV.....PHIKLOAERGVSIKGV 45

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched: 1107863 seqs, 158726573 residues
Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

A: Geneseq_19Jun03:*

- 1: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1980.DAT:*
- 2: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1981.DAT:*
- 3: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1982.DAT:*
- 4: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1983.DAT:*
- 5: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1984.DAT:*
- 6: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1985.DAT:*
- 7: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1986.DAT:*
- 8: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1987.DAT:*
- 9: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1988.DAT:*
- 10: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1989.DAT:*
- 11: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1990.DAT:*
- 12: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1991.DAT:*
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- 19: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1998.DAT:*
- 20: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA1999.DAT:*
- 21: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2000.DAT:*
- 22: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2001.DAT:*
- 23: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2002.DAT:*
- 24: /SIDSI/gcgdata/geneseq/geneseq-emb1/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	239	100.0	45	8	AA171559
2	239	100.0	45	14	AA171559
3	239	100.0	45	21	AA18551
4	239	100.0	86	9	AA181933
5	239	100.0	101	10	AA190557
6	239	100.0	105	10	AA190558
7	239	100.0	114	10	AA190559
8	239	100.0	118	10	AA190560
9	239	100.0	121	23	AA181292

10	239	100.0	123	10	AA190561	rhbFGF mutein C123
11	239	100.0	129	9	AA181940	Human basic fibrob
12	239	100.0	129	10	AA190562	rhbFGF mutein C129
13	239	100.0	129	10	AA190564	rhbFGF mutein CS23
14	239	100.0	132	20	AA179955	Human basic fibrob
15	239	100.0	134	9	AA181932	Human basic fibrob
16	239	100.0	138	10	AA190563	rhbFGF mutein C137
17	239	100.0	139	9	AA181937	rhbFGF mutein CS23
18	239	100.0	144	11	AA190564	Human basic fibrob
19	239	100.0	145	13	AA182408	Basic fibroblast g
20	239	100.0	145	13	AA182408	Sequence of basic
21	239	100.0	145	13	AA182513	Human basic fibrob
22	239	100.0	146	9	AA171145	Basic fibroblast g
23	239	100.0	146	9	AA182579	Human basic fibrob
24	239	100.0	146	12	AA181427	Basic fibroblast g
25	239	100.0	146	13	AA182519	Basic fibroblast g
26	239	100.0	146	13	AA182542	rhbFGF derivative.
27	239	100.0	146	13	AA182543	Bovine basic FG.
28	239	100.0	146	13	AA182764	rhbFGF mutein BFM2.
29	239	100.0	146	13	AA182765	rhbFGF mutein BFM3.
30	239	100.0	146	13	AA182766	rhbFGF mutein BFM4.
31	239	100.0	146	13	AA182767	rhbFGF mutein BFM5.
32	239	100.0	146	13	AA182771	Mammalian basic FG
33	239	100.0	146	14	AA183494	Human basic fibrob
34	239	100.0	146	14	AA183919	Human basic fibrob
35	239	100.0	146	14	AA183918	Human basic fibrob
36	239	100.0	146	14	AA182835	rhbFGF mutein CS23.
37	239	100.0	146	15	AA185925	Fibroblast growth
38	239	100.0	146	15	AA185926	Fibroblast growth
39	239	100.0	146	15	AA185927	Fibroblast growth
40	239	100.0	146	15	AA185928	Fibroblast growth
41	239	100.0	146	15	AA185929	Fibroblast growth
42	239	100.0	146	20	AA187617	Human basic fibrob
43	239	100.0	146	21	AA193186	Human basic fibrob
44	239	100.0	146	21	AA187847	Human FGF-2 protei
45	239	100.0	146	21	AA187848	Bovine FGF-2 prote

ALIGNMENTS

RESULT 1	AA171559	standard; Protein; 45 AA.
ID	AA171559	
AC	AA171559	
XX		
DT	25-MAR-2003 (updated)	
DT	01-MAY-1991 (first entry)	
XX		
DE	Fibroblast Growth Factor antagonist #4.	
XX		
KW	fibroblast growth factor; FGF; heparin-binding.	
XX		
OS	Synthetic.	
XX		
PN	EP246753-A.	
XX		
PD	25-NOV-1981.	
XX		
PF	21-APR-1987; 87EP-0303489.	
XX		
PR	22-APR-1986; 86US-0854843.	
XX		
PA	(SALK) SALK INST BIOLOGICAL STUDIES.	
XX		
PI	Baird AJ, Ling NCK;	
XX		
DR	WPI; 1987-328974/47.	
XX		
PT	New polypeptide antagonists of fibroblast growth factor -	
PT	effective against basic or acidic forms, useful eg for treating	
PT	proliferative diseases	

Query Match	100.0%	Score 239	DB 8	Length 45
Best Local Similarity	100.0%	Pred. No. 5.4e-26		
Matches 45	Conservative 0	Mismatches 0	Indels 0	Gaps 0
DB	1	YCKNGGFPLRIHPDGRVGVGRKSPPHIKLQLQAEERGVSTIKGV	45	
OY	1	YCKNGGFPLRIHPDGRVGVGRKSPPHIKLQLQAEERGVSTIKGV	45	
RESULT 2				
ID	AAK43278	standard; peptide; 45 AA.		
AC	AAK43278			
DT	25-MAR-2003	(updated)		
DT	05-MAY-1994	(first entry)		
DE	FGF antagonist bFGF(24-68)-NH2.			
KW	Bovine; basic fibroblast growth factor; antagonist; mitogen;			
KW	melanoma; glomerulonephritis; retinopathy.			
OS	Synthetic.			
PH	Key	Location/Qualifiers		
PT	Modified-site 45	/note= "amidated"		
PN	US5252718-A.			
PD	12-OCT-1993.			
PF	27-APR-1992;	92US-0873773.		
PR	22-APR-1986;	86US-0854843.		
PR	14-NOV-1988;	88US-0270225.		
PR	27-APR-1992;	92US-0873773.		
PA	(SALK) SALK INST BIOLOGICAL STUDIES.			
PI	Baird JA, Ling NC;			
PI	WPI, 1993-336156/42.			
PT	New fibroblast growth factor peptide(s) - are FGF antagonists			
PT	used to inhibit cell growth in culture or in disease e.g.			
PT	retinopathy, glomerulonephritis, melanoma etc.			
PS	Example 1; Column 10; 12pp; English.			
CC	The peptide bFGF(24-68)-NH2 (100mcg/ml) reduces the amount of			
CC	radioactive bFGF bound to the BHK cells by 54% and shows strong			
CC	affinity to bind heparin.			
CC	(Updated on 25-MAR-2003 to correct PF field.)			
Sequence	45 AA;			

[illegible]

OY 1 YCKNGGFPLRIHPDGRVGVREKSDPHIKLOLAERGVSISKV 45
 DB 1 YCKNGGFPLRIHPDGRVGVREKSDPHIKLOLAERGVSISKV 45

RESULT 4
 AAP81933
 ID AAP81933 standard; protein; 86 AA.
 XX AAP81933;
 AC
 XX 25-MAR-2003 (updated)
 DT 26-OCT-1990 (first entry)
 XX
 DE Human basic fibroblast growth factor mutein C86 from phage M13-PC86.
 XX
 KM Human basic fibroblast growth factor; human bFGF mutein C86;
 KW growth promoting activity; growth stimulating activity; phage M13-PC86;
 XX capillary endothelial cells; angiogenic activity.
 XX
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Misc-difference 87..87
 FT /label=mutation Lys to stopcodon
 FT /note="creates APl II recognition site"
 XX
 XX EP281822-A.
 PD 14-SEP-1988.
 XX
 PF 20-FEB-1988; 88EP-0102491.
 XX
 PR 24-FEB-1987; 87JP-0042218.
 PR 25-FEB-1987; 87JP-0043444.
 PR 02-APR-1987; 87JP-0081977.
 PR 12-JUN-1987; 87JP-0147511.
 PR 11-AUG-1987; 87JP-0201510.
 PR 11-AUG-1987; 87JP-0201570.
 PR 17-NOV-1987; 87JP-0290283.
 PR 26-JAN-1988; 88JP-0016260.
 PR 20-SEP-1988; 88JP-0235842.
 XX
 PA (TAKE) TAKEDA CHEM IND LTD.
 PI Senoo M, Kurokawa T, Igarashi K, Sasada R;
 DR N-PSDB; AAN81990.
 XX
 DR WPI; 1988-258580/37.
 XX
 PT Mutein of basic fibroblast growth factor -
 PT having fibroblast growth promoting activity, growth stimulating
 PT activity of capillary endothelial cells and angiogenic activity.
 PS
 XX Disclosure; Page ?; 1pp; English.

Using plasmid pTR796, E.coli MM294 was transformed, whereby the strain E.coli MM294/pTR796 was obtained, which (IFO 14701, FERM BP-1661) harbors the plasmid pTR796 expressing the mutein represented here. The amino acid sequence Lys 87 to Ser 147 has been deleted. The mutein has high stability and is low in toxicity. It can be used as a healing accelerator for e.g. burns, wounds or postoperative tissues or as a therapeutic drug based on its angiogenic action for e.g. thrombosis or arteriosclerosis. It can also be used as a reagent for acceleration of cell cultivation. A mutein where at least one constituent cysteine is replaced by serine is preferred because the mutein is highly stable and intermolecular bridges and linkages are reduced or eliminated. See also AAN81971-97.
 CC (Updated on 25-MAR-2003 to correct PR field.)
 CC (Updated on 25-MAR-2003 to correct PA field.)
 CC (Updated on 25-MAR-2003 to correct PI field.)

XX SQ Sequence 86 AA;
 Query Match 100.0%; Score 239; DB 9; Length 86;
 Best Local Similarity 100.0%; Pred. No. 1.2e-25;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YCKNGGFPLRIHPDGRVGVREKSDPHIKLOLAERGVSISKV 45
 DB 25 YCKNGGFPLRIHPDGRVGVREKSDPHIKLOLAERGVSISKV 69

RESULT 5
 AAP90557
 ID AAP90557 standard; protein; 101 AA.
 XX AAP90557;
 AC
 XX 25-MAR-2003 (updated)
 DT 31-OCT-2002 (updated)
 DT 26-OCT-1989 (first entry)
 XX
 DE rhbFGF mutein CS102.
 XX
 KM Basic fibroblast growth factor; mutein CS102.
 KW Homo sapiens.
 XX
 OS
 XX
 XX EP326907-A.
 PD 09-AUG-1989.
 XX
 PF 24-JAN-1989; 89EP-0101162.
 XX
 PR 26-JAN-1988; 88JP-0016260.
 PR 19-AUG-1988; 88JP-0206968.
 PR 20-SEP-1988; 88JP-0235842.
 XX
 PA (TAKE) TAKEDA CHEM IND LTD.
 PI Senoo M, Sasada R, Kurokawa T, Igarashi K;
 DR WPI; 1989-228965/32.
 XX
 PT Mutein of basic fibroblast growth factor - lacking carboxy terminal
 PT amino acids, having growth promoting and angiogenic activities.
 PS
 XX Disclosure; Fig. 3; 41pp; english.

rhbFGF mutein CS102 (encoded by AAN90401) lacks 46 C-terminal AAs of basic fibroblast growth factor. It has high fibroblast growth promoting, vasoendothelial cell growth promoting, and angiogenic activities, and has high stability and low toxicity. It is used to accelerate healing of, eg burns, wounds and postoperative tissues, as a drug for thrombosis or arteriosclerosis, or as a reagent to accelerate cell cultivation.
 CC (Updated on 31-OCT-2002 to add missing OS field.)
 CC (Updated on 25-MAR-2003 to correct PA field.)
 XX
 SQ Sequence 101 AA;

Query Match 100.0%; Score 239; DB 10; Length 101;
 Best Local Similarity 100.0%; Pred. No. 1.5e-25;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YCKNGGFPLRIHPDGRVGVREKSDPHIKLOLAERGVSISKV 45
 DB 25 YCKNGGFPLRIHPDGRVGVREKSDPHIKLOLAERGVSISKV 69

RESULT 6
 AAP90558
 ID AAP90558 standard; protein; 105 AA.

```

XX AC AAP90558;
XX XX
DT 25-MAR-2003 (updated)
DT 31-OCT-2002 (updated)
DT 26-OCT-1989 (first entry)
DE rhbGF mutein CS105.
XX XX
KM Basic fibroblast growth factor; mutein CS105.
XX XX
OS Homo sapiens.
XX XX
PN EP326907-A.
XX PD 09-AUG-1989.
XX PF 24-JAN-1989; 89EP-0101162.
XX PR 26-JAN-1988; 88JP-0016260.
XX PR 19-AUG-1988; 88JP-0206968.
XX PR 20-SEP-1988; 88JP-0235842.
XX PA (TAKE ) TAKEDA CHEM IND LTD.
XX PI Senoo M, Sasada R, Kurokawa T, Igarashi K;
XX DR WPI; 1989-228965/32.
XX PT Mutens of basic fibroblast growth factor - lacking carboxy terminal
XX PT amino acids, having growth promoting and angiogenic activities.
XX PS Disclosure; Fig. 4; 41pp; english.
XX CC rhbGF mutein CS105 (encoded by AAN90402) lacks 42 C-terminal AAs of
XX CC basic fibroblast growth factor. It has high fibroblast growth
XX CC promoting, vasoendothelial cell growth promoting, and angiogenic
XX CC activities, and has high stability and low toxicity. It is used to
XX CC accelerate healing of, eg burns, wounds and postoperative tissues, as a
XX CC drug for thrombosis or arteriosclerosis, or as a reagent to accelerate
XX CC cell cultivation.
XX CC (Updated on 31-OCT-2002 to add missing OS field.)
XX CC (Updated on 25-MAR-2003 to correct PA field.)
XX CC
XX SQ Sequence 105 AA;

Query Match 100.0%; Score 239; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 1.5e-25;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHHPDGRVDGVRKSDPHIKQLQAEERGVSVIKGV 45
DB 25 YCKNGFFLRHHPDGRVDGVRKSDPHIKQLQAEERGVSVIKGV 69

RESULT 7
AAP90559
ID AAP90559 standard; peptide; 114 AA.
XX
XX AAP90559;
XX
XX 25-MAR-2003 (updated)
XX 31-OCT-2002 (updated)
XX 26-OCT-1989 (first entry)
XX rhbGF mutein C114.
XX
XX Basic fibroblast growth factor; mutein C114.
XX
XX Homo sapiens.
XX
XX EP326907-A.
XX
XX

```

```

PD 09-AUG-1989.
XX PF 24-JAN-1989; 89EP-0101162.
XX PR 26-JAN-1988; 88JP-0016260.
XX PR 19-AUG-1988; 88JP-0206968.
XX PR 20-SEP-1988; 88JP-0235842.
XX PA (TAKE ) TAKEDA CHEM IND LTD.
XX PI Senoo M, Sasada R, Kurokawa T, Igarashi K;
XX DR WPI; 1989-228965/32.
XX PT Mutens of basic fibroblast growth factor - lacking carboxy terminal
XX PT amino acids, having growth promoting and angiogenic activities.
XX PS Disclosure; Fig. 5; 41pp; english.
XX CC rhbGF mutein C114 (encoded by AAN90403) lacks 33 C-terminal amino acids
XX CC of basic fibroblast growth factor. It has high fibroblast growth
XX CC promoting, vasoendothelial cell growth promoting, and angiogenic
XX CC activities, and has high stability and low toxicity. It is used to
XX CC accelerate healing of, eg burns, wounds and postoperative tissues, as a
XX CC drug for thrombosis or arteriosclerosis, or as a reagent to accelerate
XX CC cell cultivation.
XX CC (Updated on 31-OCT-2002 to add missing OS field.)
XX CC (Updated on 25-MAR-2003 to correct PA field.)
XX CC
XX SQ Sequence 114 AA;

Query Match 100.0%; Score 239; DB 10; Length 114;
Best Local Similarity 100.0%; Pred. No. 1.7e-25;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHHPDGRVDGVRKSDPHIKQLQAEERGVSVIKGV 45
DB 25 YCKNGFFLRHHPDGRVDGVRKSDPHIKQLQAEERGVSVIKGV 69

RESULT 8
AAP90560
ID AAP90560 standard; protein; 118 AA.
XX
XX AAP90560;
XX
XX 25-MAR-2003 (updated)
XX 31-OCT-2002 (updated)
XX 26-OCT-1989 (first entry)
XX rhbGF mutein C118.
XX
XX Basic fibroblast growth factor; mutein C118.
XX
XX Homo sapiens.
XX
XX EP326907-A.
XX
XX 09-AUG-1989.
XX PF 24-JAN-1989; 89EP-0101162.
XX PR 26-JAN-1988; 88JP-0016260.
XX PR 19-AUG-1988; 88JP-0206968.
XX PR 20-SEP-1988; 88JP-0235842.
XX PA (TAKE ) TAKEDA CHEM IND LTD.
XX PI Senoo M, Sasada R, Kurokawa T, Igarashi K;
XX DR WPI; 1989-228965/32.
XX PT Mutens of basic fibroblast growth factor - lacking carboxy terminal

```

PT amino acids, having growth promoting and angiogenic activities.

XX Disclosure; Fig. 6; 41pp; english.

PS

XX rhbFGF mutein C118 (encoded by AAN90404) lacks 29 C-terminal amino acids

CC of basic fibroblast growth factor. It has high fibroblast growth

CC promoting, vasendothelial cell growth promoting, and angiogenic

CC activities, and has high stability and low toxicity. It is used to

CC accelerate healing of, eg burns, wounds and postoperative tissues, as a

CC drug for thrombosis or arteriosclerosis, or as a reagent to accelerate

CC cell cultivation.

CC (Updated on 31-OCT-2002 to add missing OS field.)

CC (Updated on 25-MAR-2003 to correct PA field.)

CC

XX

Sequence 118 AA;

SO

Query Match 100.0%; Score 239; DB 10; Length 118;

Best Local Similarity 100.0%; Pred. No. 1.8e-25;

Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YCKNGGFPLRIHPDGRVDGVREKSDPHIKQLQAEERGVASIKGV 45

Db 25 YCKNGGFPLRIHPDGRVDGVREKSDPHIKQLQAEERGVASIKGV 69

RESULT 9

ABBB1292

ID ABBB1292 standard; Protein; 121 AA.

XX

AC ABBB1292;

XX

DT 21-AUG-2002 (first entry)

XX

DE Human FGF2 core structure amino acid sequence.

XX

KW Fibroblast growth factor 9; FGF-9; cytosolic; vulnary; osteopathic;

KW antiarthritic; vasculogenesis; angiogenesis; FGR; skeletal disorder;

KW fibroblast growth factor receptor; cancer; bone fracture healing;

KW bone growth; wound healing; achondroplasia; hypochondroplasia;

XX osteoporosis; cartilage defect; multiple myeloma.

XX

OS Homo sapiens.

XX

FN WO200236732-A2.

PN

PD 10-MAY-2002.

XX

PF 18-OCT-2001; 2001MO-1100962.

XX

PR 31-OCT-2000; 2000IL-0139380.

XX

PA (PROC-) PROCHON BIOTECH LTD.

XX

PI Bogin O, Adar R, Yayon A;

XX

WI; 2002-479754/51.

XX

PT New variants of fibroblast growth factor, useful for treating skeletal

PT disorders including osteoporosis, malignancies and to enhance wound and

PT fracture healing -

XX

PS Disclosure; Fig 1; 74pp; English.

CC

CC The present invention describes an active variant (I) of a fibroblast

CC growth factor (FGF) having at least one mutation in the beta-8-beta-9

CC loop, having enhanced specificity for one receptor subtype compared to

CC the corresponding wild type FGF, by decreasing the biological activity

CC mediated by at least one receptor subtype while retaining the activity

CC mediated through another receptor subtype. (I) has cytosolic, vulnary,

CC osteopathic and antiarthritic activities. (I) can be used as a regulator

CC of vasculogenesis or angiogenesis. (I) is useful for preparing a

CC medicament and for treating a disease or disorder related to normal or

CC abnormal FGF receptors (FGFRs), especially skeletal disorders, cancer,

CC	to enhance bone fracture healing or bone growth processes and wound
CC	healing processes. (I) is useful in detection and treatment of various
CC	FGFR related disorders including skeletal disorders e.g. achondroplasia,
CC	hypochondroplasia, and osteoporosis, and cartilage defects, multiple
CC	myeloma, epithelial cancers such as transitional cell carcinoma of the
CC	bladder and cervical carcinoma. The novel mutants are useful in high
CC	expression systems suitable for pharmaceutical production, targeting of
CC	drugs or other agents to tissues and cells having specific FGFR
CC	subtypes, and serve as template for the formation of improved agonists
CC	and antagonists of FGFRs in various disorders such as skeletal
CC	disorders and cancer. The present sequence represents a FGF core
CC	structure amino acid sequence which is given in the exemplification of
CC	the present invention.
XX	
SQ	Sequence 121 AA;
Query Match	100.0%; Score 239; DB 23; Length 121;
Best Local Similarity	100.0%; Pred. No. 1.8e-25;
Matches	45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY	1 YCKNGGFFLRHPDGRVDGVREKSDPHIKQLQLAEEGGVSIKGV 45
D6	2 YCKNGGFFLRHPDGRVDGVREKSDPHIKQLQLAEEGGVSIKGV 46
RESULT 10	
ID	AAP90561 standard; peptide; 123 AA.
AC	AAP90561
XX	AAP90561;
XX	
DT	25-MAR-2003 (updated)
DT	31-OCT-2002 (updated)
DT	26-OCT-1989 (first entry)
XX	
DE	rhbFGF mutein C123.
XX	
KM	Basic fibroblast growth factor; mutein C123.
XX	
OS	Homo sapiens.
XX	
PN	EP326907-A.
XX	
PD	09-AUG-1989.
PF	24-JAN-1989; 89EP-0101162.
XX	
PR	26-JAN-1988; 88JP-0016250.
PR	19-AUG-1988; 88JP-0206968.
PR	20-SEP-1988; 88JP-0235842.
PA	(TAKE) TAKEDA CHEM IND LTD.
PI	Senoo M, Sasada R, Kurokawa T, Igarashi K;
DR	WPI; 1989-228965/32.
PT	Muteins of basic fibroblast growth factor - lacking carboxy terminal
PT	amino acids, having growth promoting and angiogenic activities.
PS	Disclosure; Fig. 7; 41pp; english.
XX	
XX	rhbFGF mutein C123 (encoded by AAP90405) lacks 24 C-terminal amino acids
CC	of basic fibroblast growth factor. It has high fibroblast growth
CC	promoting, vasendothelial cell growth promoting, and angiogenic
CC	activities, and has high stability and low toxicity. It is used to
CC	accelerate healing of, eg burns, wounds and postoperative tissues, as a
CC	drug for thrombosis or arteriosclerosis, or as a reagent to accelerate
CC	cell cultivation.
CC	(Updated on 31-OCT-2002 to add missing OS field.)
CC	(Updated on 25-MAR-2003 to correct PA field.)
XX	
Sequence	123 AA;

Query Match 100.0%; Score 239; DB 10; Length 123;
 Best Local Similarity 100.0%; Pred. No. 1.9e-25;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHPDGRVDGVREKSDPHIKLOLAEEGVVSIKGV 45
 |||||
 DB 25 YCKNGFFLRHPDGRVDGVREKSDPHIKLOLAEEGVVSIKGV 69

RESULT 11
 AAP81940
 ID AAP81940 standard; protein; 129 AA.

XX AC AAP81940;

XX DT 25-MAR-2003 (updated)
 DT 26-OCT-1990 (first entry)

XX DE Human basic fibroblast growth factor mutein C129 from plasmid pTR856.

XX KM Human basic fibroblast growth factor; human bFGF mutein FINT;
 KM growth promoting activity; growth stimulating activity; plasmid pTR856;
 KM capillary endothelial cells; angiogenic activity.

XX OS Synthetic.

XX FH Key Location/Qualifiers
 FT Misc-difference 129.129
 FT /label=multiplication_to_stopcodon

XX PN EP281822-A.

XX PD 14-SEP-1988.

XX PF 20-FEB-1988; 88EP-0102491.

XX PR 24-FEB-1987; 87JP-0042218.

XX PR 25-FEB-1987; 87JP-0043444.

XX PR 02-APR-1987; 87JP-0081977.

XX PR 12-JUN-1987; 87JP-0147511.

XX PR 11-AUG-1987; 87JP-0201510.

XX PR 11-AUG-1987; 87JP-0201570.

XX PR 17-NOV-1987; 87JP-0290283.

XX PR 26-JAN-1988; 88JP-0016260.

XX PR 20-SEP-1988; 88JP-0235842.

XX PA (TAKE) TAKEDA CHEM IND LTD.

XX PI Senoo M, Kurokawa T, Igarashi K, Sasada R;

XX DR WPI, 1988-258580/37.

XX DR N-PSDB; AAN8197.

XX PT Mutein of basic fibroblast growth factor -
 PT having fibroblast growth promoting activity, growth stimulating
 PT activity of capillary endothelial cells and angiogenic activity.

XX PS Disclosure; Page 7; 1pp; English.

XX XX Using plasmid pTR856, E.coli MM294 was transformed, whereby the
 CC strain E.coli MM294/pTR856 was obtained, which harbors the plasmid
 CC pTR856 expressing the mutein represented here. The amino acid
 CC sequence from Lys130 to Ser147 has been deleted.
 CC It can be used as a healing accelerator for e.g. burns, wounds
 CC or postoperative tissues or as a therapeutic drug based on its
 CC angiogenic action for e.g. thrombosis or arteriosclerosis. It can also
 CC be used as a reagent for acceleration of cell cultivation. A mutein
 CC where at least one constituent cysteine is replaced by serine is
 CC preferred because the mutein is highly stable and intermolecular bridges
 CC and linkages are reduced or eliminated.
 CC See also AAN81971-97.

CC (Updated on 25-MAR-2003 to correct PR field.)
 CC (Updated on 25-MAR-2003 to correct PA field.)
 CC (Updated on 25-MAR-2003 to correct PI field.)

SQ Sequence 129 AA;

Query Match 100.0%; Score 239; DB 9; Length 129;
 Best Local Similarity 100.0%; Pred. No. 2e-25;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHPDGRVDGVREKSDPHIKLOLAEEGVVSIKGV 45
 |||||
 DB 25 YCKNGFFLRHPDGRVDGVREKSDPHIKLOLAEEGVVSIKGV 69

RESULT 12

AAP90562
 ID AAP90562 standard; peptide; 129 AA.

XX AC AAP90562;

XX DT 25-MAR-2003 (updated)
 DT 31-OCT-2002 (updated)
 DT 26-OCT-1989 (first entry)

XX DE rhbFGF mutein C129.

XX KM Basic fibroblast growth factor; mutein C129.

XX OS Homo sapiens.

XX PN EP326907-A.

XX PD 09-AUG-1989.

XX PF 24-JAN-1989; 89EP-0101162.

XX PR 26-JAN-1988; 88JP-0016260.

XX PR 19-AUG-1988; 88JP-0206968.

XX PR 20-SEP-1988; 88JP-0235842.

XX PA (TAKE) TAKEDA CHEM IND LTD.

XX PI Senoo M, Sasada R, Kurokawa T, Igarashi K;

XX DR WPI, 1989-228965/32.

XX PT Muteins of basic fibroblast growth factor - lacking carboxy terminal
 PT amino acids, having growth promoting and angiogenic activities.

XX PS Disclosure; claim 8, page 22; Fig. 8; 41pp; english.

XX CC rhbFGF mutein C129 (encoded by AAN90406) lacks 18 C-terminal amino acids
 CC of basic fibroblast growth factor. It has high fibroblast growth
 CC promoting, vasoendothelial cell growth promoting, and angiogenic
 CC activities, and has high stability and low toxicity. It is used to
 CC accelerate healing of, eg burns, wounds and postoperative tissues, as a
 CC drug for thrombosis or arteriosclerosis, or as a reagent to accelerate
 CC cell cultivation. Cys 70 and Cys 88 may be replaced by Ser (see
 CC AAN90564).

XX CC (Updated on 31-OCT-2002 to add missing OS field.)
 CC (Updated on 25-MAR-2003 to correct PA field.)

XX SQ Sequence 129 AA;

Query Match 100.0%; Score 239; DB 10; Length 129;
 Best Local Similarity 100.0%; Pred. No. 2e-25;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHPDGRVDGVREKSDPHIKLOLAEEGVVSIKGV 45
 |||||
 DB 25 YCKNGFFLRHPDGRVDGVREKSDPHIKLOLAEEGVVSIKGV 69

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RESULT 13
AAP90564
ID AAP90564 standard; protein; 129 AA.
XX
AC AAP90564;
XX
DT 25-MAR-2003 (updated)
DT 31-OCT-2002 (updated)
DT 26-OCT-1989 (first entry)
XX
DE rhbFGF mutein CS23C129.
XX
KW Basic fibroblast growth factor; mutein CS23C129.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Modified-site 70
FT Modified-site 88
XX
PN EP326907-A.
XX
PD 09-AUG-1989.
XX
PF 24-JAN-1989; 89EP-0101162.
XX
PR 26-JAN-1988; 88BP-0016260.
PR 19-AUG-1988; 88BP-0206968.
PR 20-SEP-1988; 88BP-0235842.
XX
PA (TAKE ) TAKEDA CHEM IND LTD.
XX
PI Senoo M, Sasada R, Kurokawa T, Igarashi K;
XX
DR WPI; 1989-228965/32.
XX
PT Mutins of basic fibroblast growth factor - lacking carboxy terminal
PT amino acids, having growth promoting and angiogenic activities.
XX
PS Disclosure; Fig. 13; 41pp; english.
XX
CC rhbGF mutein CS23C129 (encoded by AAN90408) lacks 18 C-terminal AAs
CC of basic fibroblast growth factor. It has high fibroblast growth
CC promoting, vasculothelial cell growth promoting, and angiogenic
CC activities, and has high stability and low toxicity. It is used to
CC accelerate healing of, eg burns, wounds and postoperative tissues, as a
CC drug for thrombosis or arteriosclerosis, or as a reagent to accelerate
CC cell cultivation. Cys 70 and Cys 88 have been replaced by Ser
CC (see AAP90562).
CC (Updated on 31-OCT-2002 to add missing OS field.)
CC (Updated on 25-MAR-2003 to correct PA field.)
XX
SQ Sequence 129 AA;
XX
XX
Query Match 100.0%; Score 239; DB 10; Length 129;
Best Local Similarity 100.0%; Pred. No. 2e-25;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 YCKNGGFPLRIHPDGRVDGVRKSDPHIKLOQAERGVSISKGV 45
DB 25 YCKNGGFPLRIHPDGRVDGVRKSDPHIKLOQAERGVSISKGV 69
XX
RESULT 14
AAP17995
ID AAP17995 standard; protein; 132 AA.
XX
AC AAP17995;
XX
DT 16-AUG-1999 (first entry)
XX
DE Human basic fibroblast growth factor (FGF).
XX

```

```

XX
KW Fusion protein; leader peptide; fermentation; interleukin-1; IL-1;
KW leaderless fusion protein; fibroblast growth factor; FGF.
XX
OS Homo sapiens.
XX
PN US5914254-A.
XX
PD 22-JUN-1999.
XX
PF 12-MAY-1997; 97US-0854811.
XX
PR 12-MAY-1997; 97US-0854811.
PR 02-AUG-1993; 93US-0100744.
PR 02-AUG-1994; 94US-0284784.
XX
PA (CBLT-) CELTRIX PHARM INC.
XX
PI Cohen PA, Mascarenhas D, Nguyen KB, Olsen DR, Olson PS;
PI Zhang Y;
XX
DR WPI; 1999-370500/31.
XX
PT Recombinant production of fusion proteins
XX
PS Example 2; Fig 1; 80pp; English.
XX
CC The invention relates to recombinant production of fusion proteins using
CC fusion partners that lack leader sequences. The nucleic acids, vectors,
CC host cells and methods disclosed may be used to recombinantly produce
CC large quantities of fusion proteins, in which the fusion partner lacks a
CC leader sequence, via fermentation culture according to standard
CC recombinant DNA methodologies. The polypeptide of interest is cleaved
CC away from the rest of the fusion protein by proteolytic digestion. A
CC variety of polypeptides may be produced in this manner including
CC enzymes, growth factors, single chain antibodies DNA-/RNA- binding
CC proteins, membrane receptors, mutant IGFBP-3s and fragments of them.
CC Additionally, the invention may be used in the screening of libraries of
CC random polypeptides by assays for their biological function. When fused
CC to an interleukin-1-like (IL-1-like) polypeptide, the random peptides
CC accumulate in a protected cellular compartment in a soluble active form.
CC Leaderless fusion proteins may be produced in a wide variety of host
CC cells (e.g. Escherichia coli), in a soluble, active and easily
CC recoverable form at temperature at or close to the physiological optima
CC for host cell growth. A wide variety of polypeptides, including those
CC that are otherwise unstable or insoluble may be expressed as fusions
CC with the IL-1-like polypeptides or other leader deleted translocating
CC peptides. Sequences AAP17992-996 represent five members of the IL-1-like
CC protein family.
XX
SQ Sequence 132 AA;
XX
XX
Query Match 100.0%; Score 239; DB 20; Length 132;
Best Local Similarity 100.0%; Pred. No. 2e-25;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 YCKNGGFPLRIHPDGRVDGVRKSDPHIKLOQAERGVSISKGV 45
DB 10 YCKNGGFPLRIHPDGRVDGVRKSDPHIKLOQAERGVSISKGV 54
XX
RESULT 15
AAP81932
ID AAP81932 standard; protein; 134 AA.
XX
AC AAP81932;
XX
DT 25-MAR-2003 (updated)
DT 26-OCT-1990 (first entry)
XX
DE Human basic fibroblast growth factor mutein N14 from phage M13-EN14.
XX
KW Human basic fibroblast growth factor; human bFGF mutein N14;
XX

```

KW growth promoting activity; growth stimulating activity; phage M13-PN14;
 KW capillary endothelial cells; angiogenic activity.
 XX Synthetic.
 OS
 XX
 XX Key Location/Qualifiers
 FT Misc-difference 3..3 /label=mutation Pro to Met
 FT /note="creates EcoRI recognition site"
 ET
 XX
 XX EP281822-A.
 PN
 XX
 XX 14-SEP-1988.
 PD
 XX
 XX 20-FEB-1988; 88EP-0102491.
 PE
 XX 24-FEB-1987; 87JP-0042218.
 PR 25-FEB-1987; 87JP-0043444.
 PR 02-APR-1987; 87JP-0081977.
 PR 12-JUN-1987; 87JP-0147511.
 PR 11-AUG-1987; 87JP-0201510.
 PR 11-AUG-1987; 87JP-0201570.
 PR 17-NOV-1987; 87JP-0290283.
 PR 26-JAN-1988; 88JP-0016260.
 PR 20-SEP-1988; 88JP-0235842.
 XX
 PA (TAKE) TAKEDA CHEM IND LTD.
 XX
 PI Senoo M, Kurokawa T, Igarashi K, Sasada R;
 XX
 XX WPI; 1988-258580/37.
 DR N-PSDB; AAN81989.
 XX
 XX Mutein of basic fibroblast growth factor -
 PT having fibroblast growth promoting activity; growth stimulating
 PT activity of capillary endothelial cells and angiogenic activity.
 XX
 XX
 PS Disclosure; Page ?; lpp; English.
 XX
 XX Using plasmid pTR795, E.coli MM294 was transformed, whereby the
 CC strain E.coli MM294/pTR795 expressing the mutein represented here.
 CC harbors the plasmid pTR795 expressing the mutein represented here.
 CC The amino acid sequence Pro2-Pro14 has been deleted.
 CC The mutein has high stability and is low in toxicity.
 CC It can be used as a healing accelerator for e.g. burns, wounds
 CC or postoperative tissues or as a therapeutic drug based on its
 CC angiogenic action for e.g. thrombosis or arteriosclerosis. It can also
 CC be used as a reagent for acceleration of cell cultivation. A mutein
 CC where at least one constituent cysteine is replaced by serine is
 CC preferred because the mutein is highly stable and intermolecular bridges
 CC and linkages are reduced or eliminated.
 CC See also AAN81971-97.
 CC (Updated on 25-MAR-2003 to correct PR field.)
 CC (Updated on 25-MAR-2003 to correct PA field.)
 CC (Updated on 25-MAR-2003 to correct PI field.)
 CC
 XX
 SQ Sequence 134 AA;
 Query Match 100.0%; Score 239; DB 9; Length 134;
 Best Local Similarity 100.0%; Pred.No. 2.1e-25;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 YCKNGGFLRLHPDGRVGVREKSDPHIKLQIQAEKRGVSIKGV 45
 |||||||
 DB 12 YCKNGGFLRLHPDGRVGVREKSDPHIKLQIQAEKRGVSIKGV 56

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:35:33 ; Search time 19.1538 Seconds
(without alignments)
99.405 Million cell updates/sec

Title: US-09-266-543-1
Perfect score: 239
Sequence: 1 YCKNGGFRLRHPDGRVDGV.....PHIKLQLAERGVSIGKV 45

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents, AA:
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6: /cgn2_6/ptodata/1/1aa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	239	100.0	132	1	US-08-100-744-4 Sequence 4, Appl1
2	239	100.0	132	2	US-08-284-784-4 Sequence 4, Appl1
3	239	100.0	132	2	US-08-854-811-4 Sequence 4, Appl1
4	239	100.0	140	5	PCT-US90-06962-1 Sequence 1, Appl1
5	239	100.0	145	1	US-07-830-330-1 Sequence 1, Appl1
6	239	100.0	145	1	US-08-187-780-3 Sequence 3, Appl1
7	239	100.0	145	2	US-08-478-485-3 Sequence 3, Appl1
8	239	100.0	145	4	US-08-478-485-3 Sequence 3, Appl1
9	239	100.0	146	2	US-08-231-894A-11 Sequence 11, Appl1
10	239	100.0	146	2	US-08-231-894A-12 Sequence 12, Appl1
11	239	100.0	146	2	US-08-231-894A-13 Sequence 13, Appl1
12	239	100.0	146	2	US-08-231-894A-14 Sequence 14, Appl1
13	239	100.0	146	3	US-08-231-894A-15 Sequence 15, Appl1
14	239	100.0	146	3	US-09-105-678A-49 Sequence 49, Appl1
15	239	100.0	146	3	US-09-421-208-49 Sequence 49, Appl1
16	239	100.0	146	4	US-09-385-114-2 Sequence 2, Appl1
17	239	100.0	146	4	US-09-417-721-3 Sequence 3, Appl1
18	239	100.0	146	4	US-09-417-721-5 Sequence 5, Appl1
19	239	100.0	146	6	5464943-6 Patent No. 5464943
20	239	100.0	146	6	5464943-8 Patent No. 5464943
21	239	100.0	146	6	5464943-10 Patent No. 5464943
22	239	100.0	146	6	5464943-12 Patent No. 5464943
23	239	100.0	146	6	5464943-14 Patent No. 5464943
24	239	100.0	146	6	5464943-25 Patent No. 5464943
25	239	100.0	146	6	5464943-26 Patent No. 5464943
26	239	100.0	147	6	5175147-8 Patent No. 5175147
27	239	100.0	147	6	5314872-1 Patent No. 5314872

28	239	100.0	150	1	US-08-441-629-8 Sequence 8, Appl1
29	239	100.0	150	3	US-08-776-207-8 Sequence 8, Appl1
30	239	100.0	150	4	US-09-507-773-8 Sequence 8, Appl1
31	239	100.0	150	5	PCT-US95-09172-8 Sequence 2, Appl1
32	239	100.0	153	3	US-08-325-186-2 Sequence 24, Appl1
33	239	100.0	154	2	US-08-438-439C-24 Sequence 1, Appl1
34	239	100.0	154	3	US-08-325-186-1 Sequence 6, Appl1
35	239	100.0	154	5	PCT-US91-02186-6 Sequence 6, Appl1
36	239	100.0	155	1	US-07-959-369-6 Sequence 7, Appl1
37	239	100.0	155	1	US-07-959-369-7 Sequence 7, Appl1
38	239	100.0	155	1	US-08-023-757-2 Sequence 2, Appl1
39	239	100.0	155	1	US-08-023-757-4 Sequence 4, Appl1
40	239	100.0	155	1	US-07-842-177A-1 Sequence 1, Appl1
41	239	100.0	155	1	US-08-177-502-2 Sequence 2, Appl1
42	239	100.0	155	1	US-08-177-502-4 Sequence 4, Appl1
43	239	100.0	155	1	US-08-439-725A-10 Sequence 10, Appl1
44	239	100.0	155	1	US-08-325-632-1 Sequence 1, Appl1
45	239	100.0	155	1	US-08-462-169B-10 Sequence 10, Appl1

ALIGNMENTS

RESULT 1
US-08-100-744-4
; Sequence 4, Application US/08100744
; Patent No. 5563046
; GENERAL INFORMATION:
; APPLICANT: MASARENHAS, DESMOND
; APPLICANT: ZHANG, SUNNY
; APPLICANT: OLSON, PAMELA
; APPLICANT: OLSEN, DAVID
; APPLICANT: CARILLO, PEDRO A.
; TITLE OF INVENTION: POLYPEPTIDE FUSIONS TO
; TITLE OF INVENTION: INTERLEUKIN-1-LIKE POLYPEPTIDES
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESSES:
; ADDRESS: MORRISON & FOERSTER
; STREET: 755 Page Mill Road
; CITY: Palo Alto
; STATE: California
; COUNTRY: USA
; ZIP: 94304-1018
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/100,744
; FILING DATE: 02-AUG-1993
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: LUTHER, BARBARA J.
; REGISTRATION NUMBER: 33,954
; REFERENCE/DOCKET NUMBER: 22095-20275.00
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (415) 813-5600
; TELEFAX: (415) 494-0792
; TELEK: 706141
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 132 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
US-08-100-744-4

Query Match 100.0%; Score 239; DB 1; Length 132;
Best Local Similarity 100.0%; Pred. No. 1.6e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 YCKNGGFRLRHPDGRVDGREKSPHIKQLQLAERGVSIGKV 45

Db 10 YKNGGFFLRHDPGRVGVREKSPHIKLOQAERGVSISKV 54

RESULT 2

US-08-284-784-4
Sequence 4, Application US/08284784
Patent No. 5629172

GENERAL INFORMATION:

APPLICANT: MASCARENHAS, DESMOND

APPLICANT: ZHANG, YANG

APPLICANT: OLSEN, PAMELA S.

APPLICANT: OLSEN, DAVID R.

APPLICANT: CARILLO, PEDRO A.

TITLE OF INVENTION: EXPRESSION OF FUSION POLYPEPTIDES

TITLE OF INVENTION: TRANSPORTED OUT OF THE CYTOPLASM WITHOUT LEADER SEQUENCES

NUMBER OF SEQUENCES: 44

CORRESPONDENCE ADDRESS:

ADDRESSEE: MORRISON & FOERSTER

STREET: 755 Page Mill Road

CITY: Palo Alto

STATE: California

COUNTRY: USA

ZIP: 94304-1018

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/284,784

FILING DATE: 02-AUG-1994

CLASSIFICATION: 530

ATTORNEY/AGENT INFORMATION:

NAME: PARK, FREDIE K.

REGISTRATION NUMBER: 35,636

REFERENCE/DOCKET NUMBER: 22095-20275.20

TELECOMMUNICATION INFORMATION:

TELEPHONE: (415) 813-5600

TELEFAX: (415) 494-0792

TELEX: 706141

INFORMATION FOR SEQ ID NO: 4:

SEQUENCE CHARACTERISTICS:

LENGTH: 132 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

US-08-284-784-4

Query Match 100.0%; Score 239; DB 1; Length 132;

Best Local Similarity 100.0%; Pred. No. 1.6e-27; Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YKNGGFFLRHDPGRVGVREKSPHIKLOQAERGVSISKV 45
Db 10 YKNGGFFLRHDPGRVGVREKSPHIKLOQAERGVSISKV 54

RESULT 3

US-08-854-811-4
Sequence 4, Application US/08854811
Patent No. 5914254

GENERAL INFORMATION:

APPLICANT: MASCARENHAS, DESMOND

APPLICANT: ZHANG, YANG

APPLICANT: OLSEN, PAMELA S.

APPLICANT: OLSEN, DAVID R.

APPLICANT: COHEN, PEDRO A.

TITLE OF INVENTION: EXPRESSION OF FUSION POLYPEPTIDES

TITLE OF INVENTION: TRANSPORTED OUT OF THE CYTOPLASM WITHOUT LEADER

NUMBER OF SEQUENCES: 49

CORRESPONDENCE ADDRESS:

ADDRESSEE: MORRISON & FOERSTER
STREET: 755 PAGE MILL ROAD
CITY: Palo Alto
STATE: CA
COUNTRY: USA

ZIP: 94304-1018

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette

COMPUTER: IBM Compatible

OPERATING SYSTEM: Windows

SOFTWARE: FastSeq for Windows Version 2.0b

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/854,811

FILING DATE: 12-MAY-1997

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/284,784

FILING DATE: 02-AUG-1994

APPLICATION NUMBER: 08/100,744

FILING DATE: 02-AUG-1993

ATTORNEY/AGENT INFORMATION:

NAME: Buflinger, Nicholas S

REGISTRATION NUMBER: 39,124

REFERENCE/DOCKET NUMBER: 22095-20275.21

TELECOMMUNICATION INFORMATION:

TELEPHONE: 650-813-5600

TELEFAX: 650-494-0792

TELEX: 706141

INFORMATION FOR SEQ ID NO: 4:

SEQUENCE CHARACTERISTICS:

LENGTH: 132 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

US-08-854-811-4

Query Match 100.0%; Score 239; DB 2; Length 132;

Best Local Similarity 100.0%; Pred. No. 1.6e-27; Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YKNGGFFLRHDPGRVGVREKSPHIKLOQAERGVSISKV 45
Db 10 YKNGGFFLRHDPGRVGVREKSPHIKLOQAERGVSISKV 54

RESULT 4

PCT-US90-06962-1
Sequence 1, Application PC/TUS9006962
GENERAL INFORMATION:

APPLICANT: Baird, J. A.

APPLICANT: Hajjar, David P.

TITLE OF INVENTION: Treatment of HSV

NUMBER OF SEQUENCES: 2

CORRESPONDENCE ADDRESS:

ADDRESSEE: Fitch, Even, Tabin & Flannery

STREET: 115 South LaSalle Street, Suite 900

CITY: Chicago

STATE: Illinois

COUNTRY: USA

ZIP: 60603

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patentin Release #1.24

CURRENT APPLICATION DATA:

APPLICATION NUMBER: PCT/US90/06962

FILING DATE: 19901129

CLASSIFICATION: A61B6/00

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 07/443,939

FILING DATE: 30-NOV-1989

ATTORNEY/AGENT INFORMATION:

NAME: Schumann, James J.
REGISTRATION NUMBER: 20856
REFERENCE/DOCKET NUMBER: 50742
TELECOMMUNICATION INFORMATION:
TELEPHONE: (619)552-1311
TELEFAX: (619)552-0095
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 157 amino acids
TYPE: AMINO ACID
TOPOLOGY: linear
MOLECULE TYPE: protein
PCT-US90-06962-1

Query Match 100.0%; Score 239; DB 5; Length 140;
Best Local Similarity 100.0%; Pred. No. 1.8e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YCKNGGFLRIHPDGRVDGVRKSPHIKLOQAERGVSISKV 45
Db 35 YCKNGGFLRIHPDGRVDGVRKSPHIKLOQAERGVSISKV 79

RESULT 5
US-07-830-330-1
Sequence 1, Application US/07830330
Patent No. 5288704

GENERAL INFORMATION:
APPLICANT: Ungheri, Domenico
APPLICANT: Garofano, Luisa
APPLICANT: Battistini, Carlo
APPLICANT: Carminali, Paolo
APPLICANT: Mazze, Guy
TITLE OF INVENTION: SYNERGISTIC COMPOSITION COMPRISING A
TITLE OF INVENTION: FIBROBLAST GROWTH FACTOR AND A SULFATED POLYSACCHARIDE,
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MATER & NEUSTADT,
ADDRESS: P.C.
STREET: 1755 Jefferson Davis Highway, Fourth Floor
CITY: Arlington
STATE: Virginia
ZIP: 22202

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/830,330
FILING DATE: 19920420

CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: Oblon, No. 5288704man F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 769-230-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)521-4500
TELEFAX: (703)486-2347

INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acids
TYPE: AMINO ACID
TOPOLOGY: linear
MOLECULE TYPE: protein
ORIGINAL SOURCE:
ORGANISM: Homo sapiens
US-07-830-330-1

Query Match 100.0%; Score 239; DB 1; Length 145;
Best Local Similarity 100.0%; Pred. No. 1.8e-27;

Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 YCKNGGFLRIHPDGRVDGVRKSPHIKLOQAERGVSISKV 45
Db 24 YCKNGGFLRIHPDGRVDGVRKSPHIKLOQAERGVSISKV 68

RESULT 6
US-08-187-780-3
Sequence 3, Application US/08187780
Patent No. 5459250

GENERAL INFORMATION:
APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
TITLE OF INVENTION: MAMMALIAN GROWTH FACTOR
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby & Darby P.C.
STREET: 805 Third Avenue
CITY: New York
STATE: New York
COUNTRY: USA
ZIP: 10022

COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 5.25 inch,
MEDIUM TYPE: 360 Kb storage
COMPUTER: IBM or IBM-compatible
OPERATING SYSTEM: PC/MS-DOS
SOFTWARE: Wordperfect
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/187,780
FILING DATE: January 25, 1994
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/901,705
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/177,506
FILING DATE: April 4, 1988
APPLICATION NUMBER: 07/062,925
FILING DATE: June 16, 1987

ATTORNEY/AGENT INFORMATION:
NAME: Howard M. Frankfort
REGISTRATION NUMBER: 32,613
REFERENCE/DOCKET NUMBER: 5966/13586-US3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (212) 527-7700
TELEFAX: (212) 753-6237
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 145
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: Protein
DESCRIPTION: Protein
FEATURE:
NAME/KEY:
LOCATION:
IDENTIFICATION METHOD:

OTHER INFORMATION: This sequence,
OTHER INFORMATION: corresponding to bovine basic fibroblast
OTHER INFORMATION: growth factor, can be found in Table 1,
OTHER INFORMATION: page 9, lines 9, 14, and 19, in the
OTHER INFORMATION: application, as filed.
PUBLICATION INFORMATION:
AUTHORS:
TITLES:
JOURNAL:
VOLUME:
ISSUE:
PAGES:

DATE:
DOCUMENT NUMBER:
FILING DATE:
PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO: 1-145
US-08-187-780-3

Query Match 100.0%; Score 239; DB 1; Length 145;
Best Local Similarity 100.0%; Pred. No. 1.8e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YKNGGFLLRIHPDGRVGVREKSPHKLQLOAERGVSIGV 45
DB 24 YKNGGFLLRIHPDGRVGVREKSPHKLQLOAERGVSIGV 68

RESULT 7
US-08-478-485-3
Sequence 3, Application US/08478485
Patent No. 5883071
GENERAL INFORMATION:
APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
TITLE OF INVENTION: MAMMALIAN GROWTH FACTOR
NUMBER OF SEQUENCES: 8
CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby & Darby P.C.
STREET: 805 Third Avenue
CITY: New York
STATE: New York
COUNTRY: USA
ZIP: 10022
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy diskette, 3+ inch,
MEDIUM TYPE: 1.44 MB storage
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC/MS-DOS
SOFTWARE: Wordperfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/478,485
FILING DATE: Concurrently Herewith
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/187,780
FILING DATE: January 25, 1994
APPLICATION NUMBER: 07/901,705
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/177,506
FILING DATE: April 4, 1988
APPLICATION NUMBER: 07/062,925
FILING DATE: June 16, 1987
ATTORNEY/AGENT INFORMATION:
NAME: Joseph R. Robinson
REGISTRATION NUMBER: 33,448
REFERENCE/DOCKET NUMBER: 5986/13586-US6
TELEPHONE: (212) 527-7700
TELEFAX: (212) 753-6237
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 145
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE:
DESCRIPTION: Protein
FEATURE:
NAME/KEY:
LOCATION:
IDENTIFICATION METHOD:
OTHER INFORMATION: This sequence,

OTHER INFORMATION: corresponding to bovine basic fibroblast
OTHER INFORMATION: growth factor, can be found in Table 1,
OTHER INFORMATION: page 9, lines 9, 14, and 19, in the
OTHER INFORMATION: application, as filed.
PUBLICATION INFORMATION:
AUTHORS:
TITLE:
JOURNAL:
VOLUME:
ISSUE:
PAGES:
DATE:
DOCUMENT NUMBER:
FILING DATE:
PUBLICATION DATE:
RELEVANT RESIDUES IN SEQ ID NO: 1-145
US-08-478-485-3

Query Match 100.0%; Score 239; DB 2; Length 145;
Best Local Similarity 100.0%; Pred. No. 1.8e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YKNGGFLLRIHPDGRVGVREKSPHKLQLOAERGVSIGV 45
DB 24 YKNGGFLLRIHPDGRVGVREKSPHKLQLOAERGVSIGV 68

RESULT 8
US-08-478-486F-3
Sequence 3, Application US/08478486F
Patent No. 6432702
GENERAL INFORMATION:
APPLICANT: CLAUDIO BASILICO
APPLICANT: DANIELA TALARICO
TITLE OF INVENTION: MAMMALIAN GROWTH FACTOR
NUMBER OF SEQUENCES: 12
CORRESPONDENCE ADDRESS:
ADDRESSEE: Darby & Darby P.C.
STREET: 805 Third Avenue
CITY: New York
STATE: New York
COUNTRY: USA
ZIP: 10022
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy diskette, 3+ inch,
MEDIUM TYPE: 1.44 MB storage
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC/MS-DOS
SOFTWARE: Wordperfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/478,486F
FILING DATE: June 7, 1995
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/187,780
FILING DATE: January 25, 1994
APPLICATION NUMBER: 07/901,705
FILING DATE: June 22, 1992
APPLICATION NUMBER: 07/806,771
FILING DATE: December 6, 1991
APPLICATION NUMBER: 07/177,506
FILING DATE: April 4, 1988
APPLICATION NUMBER: 07/062,925
FILING DATE: June 16, 1987
ATTORNEY/AGENT INFORMATION:
NAME: Howard M. Frankfort
REGISTRATION NUMBER: 32,613
REFERENCE/DOCKET NUMBER: 5986/13586-US7
TELEPHONE: (212) 527-7700
TELEFAX: (212) 753-6237
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:

LENGTH: 145
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: Protein
DESCRIPTION: Protein
FEATURE:
NAME/KEY:
LOCATION:
IDENTIFICATION METHOD:
OTHER INFORMATION: This sequence,
OTHER INFORMATION: corresponding to bovine basic fibroblast
OTHER INFORMATION: growth factor, can be found in Table 1,
OTHER INFORMATION: page 9, lines 9, 14, and 19, in the
OTHER INFORMATION: application, as filed.
US-08-478-486F-3

Query Match 100.0%; Score 239; DB 4; Length 145;
Best Local Similarity 100.0%; Pred. No. 1.8e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHPDGRVGVREKSPHKLQQAERGVSISKV 45
DB 24 YCKNGFFLRHPDGRVGVREKSPHKLQQAERGVSISKV 68

RESULT 9
US-08-231-894A-11
Sequence 11, Application US/08231894A
Patent No. 5851990
GENERAL INFORMATION:
APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTAIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESS: 130 WATER STREET
CITY: BOSTON
STATE: MASSACHUSETTS
COUNTRY: US
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231, 894A
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41769-FWC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
TELEFAX: (617) 523-6440
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
TYPE: amino acid

STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: Internal
ORIGINAL SOURCE:
US-08-231-894A-11

Query Match 100.0%; Score 239; DB 2; Length 146;
Best Local Similarity 100.0%; Pred. No. 1.9e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHPDGRVGVREKSPHKLQQAERGVSISKV 45
DB 24 YCKNGFFLRHPDGRVGVREKSPHKLQQAERGVSISKV 68

RESULT 10
US-08-231-894A-12
Sequence 12, Application US/08231894A
Patent No. 5851990
GENERAL INFORMATION:
APPLICANT: FUJISHIMA, AKIRA
APPLICANT: FUKUDA, TSUNEHIKO
TITLE OF INVENTION: BFGF MUTAIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
ADDRESS: 130 WATER STREET
CITY: BOSTON
STATE: MASSACHUSETTS
COUNTRY: US
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
OPERATING SYSTEM: DOS
SOFTWARE: FASTSEQ Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231, 894A
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41769-FWC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
TELEFAX: (617) 523-6440
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: Internal
ORIGINAL SOURCE:
US-08-231-894A-12

Query Match 100.0%; Score 239; DB 2; Length 146;
Best Local Similarity 100.0%; Pred. No. 1.9e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFPLRIHPDGRVGVREKSDPHIKLOLAERGVVISIKGV 45
DB 24 YCKNGFPLRIHPDGRVGVREKSDPHIKLOLAERGVVISIKGV 68

RESULT 11

US-08-231-894A-13
; Sequence 13, Application US/08231894A
; Patent No. 5851990
; GENERAL INFORMATION:
; APPLICANT: FUJISHIMA, AKIRA
; APPLICANT: FUKUDA, TSUNEHIKO
; TITLE OF INVENTION: BPGF MUTEIN AND ITS PRODUCTION
; NUMBER OF SEQUENCES: 15
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
; STREET: 130 WATER STREET
; CITY: BOSTON
; STATE: MASSACHUSETTS
; COUNTRY: US
; ZIP: 02109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/231,894A
; FILING DATE: 22-APR-1994
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 097655-1991
; FILING DATE: 26-APR-1991
; PRIORITY APPLICATION DATA:
; APPLICATION NUMBER: JP 066381-1992
; FILING DATE: 24-MAR-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: RESNICK, DAVID S.
; REGISTRATION NUMBER: 34235
; REFERENCE/DOCKET NUMBER: 41769-FWC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617) 523-3400
; TELEFAX: (617) 523-6440
; INFORMATION FOR SEQ ID NO: 13:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 146 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; FRAGMENT TYPE: internal
; ORIGINAL SOURCE:
; US-08-231-894A-13

Query Match 100.0%; Score 239; DB 2; Length 146;
Best Local Similarity 100.0%; Pred. No. 1.9e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFPLRIHPDGRVGVREKSDPHIKLOLAERGVVISIKGV 45
DB 24 YCKNGFPLRIHPDGRVGVREKSDPHIKLOLAERGVVISIKGV 68

RESULT 12
US-08-231-894A-14
; Sequence 14, Application US/08231894A
; Patent No. 5851990
; GENERAL INFORMATION:
; APPLICANT: FUJISHIMA, AKIRA
; APPLICANT: FUKUDA, TSUNEHIKO
; TITLE OF INVENTION: BPGF MUTEIN AND ITS PRODUCTION
; NUMBER OF SEQUENCES: 15
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
; STREET: 130 WATER STREET
; CITY: BOSTON
; STATE: MASSACHUSETTS
; COUNTRY: US
; ZIP: 02109
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq Version 1.5
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/231,894A
; FILING DATE: 22-APR-1994
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 07/873907
; FILING DATE: 24-APR-1992
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 097655-1991
; FILING DATE: 26-APR-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 066381-1992
; FILING DATE: 24-MAR-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: RESNICK, DAVID S.
; REGISTRATION NUMBER: 34235
; REFERENCE/DOCKET NUMBER: 41769-FWC
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (617) 523-3400
; TELEFAX: (617) 523-6440
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 146 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; FRAGMENT TYPE: internal
; ORIGINAL SOURCE:
; US-08-231-894A-14

Query Match 100.0%; Score 239; DB 2; Length 146;
Best Local Similarity 100.0%; Pred. No. 1.9e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFPLRIHPDGRVGVREKSDPHIKLOLAERGVVISIKGV 45
DB 24 YCKNGFPLRIHPDGRVGVREKSDPHIKLOLAERGVVISIKGV 68

RESULT 13
US-08-231-894A-15
; Sequence 15, Application US/08231894A
; Patent No. 5851990
; GENERAL INFORMATION:
; APPLICANT: FUJISHIMA, AKIRA

APPLICANT: FUKUDA, TSUNEHICO
TITLE OF INVENTION: BFG MUTIN AND ITS PRODUCTION
NUMBER OF SEQUENCES: 15
CORRESPONDENCE ADDRESS:
ADDRESSEE: DAVID G. CONLIN; DIKE, BRONSTEIN, ROBERTS
STREET: 130 WATER STREET
CITY: BOSTON
STATE: MASSACHUSETTS
COUNTRY: US
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: PastSeq Version 1.5
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/231,894A
FILING DATE: 22-APR-1994
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/873907
FILING DATE: 24-APR-1992
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 097655-1991
FILING DATE: 26-APR-1991
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 066381-1992
FILING DATE: 24-MAR-1992
ATTORNEY/AGENT INFORMATION:
NAME: RESNICK, DAVID S.
REGISTRATION NUMBER: 34235
REFERENCE/DOCKET NUMBER: 41769-FWC
TELECOMMUNICATION INFORMATION:
TELEPHONE: (617) 523-3400
TELEFAX: (617) 523-6440
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
HYPOTHETICAL: NO
ANTI-SENSE: NO
FRAGMENT TYPE: internal
ORIGINAL SOURCE:
US-08-231-894A-15

Query Match 100.0%; Score 239; DB 2; Length 146;
Best Local Similarity 100.0%; Pred. No. 1.9e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGGFLRIHPDGRVDSREKSDPHIKLOQAERGVVSIKGV 45
DB 24 YCKNGGFLRIHPDGRVDSREKSDPHIKLOQAERGVVSIKGV 68

RESULT 14
US-09-105-678A-49
Sequence 49, Application US/09105678A
Patent No. 6103882
GENERAL INFORMATION:
APPLICANT: Suenaga, Masato
APPLICANT: Moriya, Takeo
APPLICANT: Tanaka, Yoko
APPLICANT: Nishimura, Osamu
TITLE OF INVENTION: METHOD OF PRODUCING A 19P2 LIGAND
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: DIKE, BRONSTEIN, ROBERTS & CUSHMAN, LLP
STREET: 130 Water Street

CITY: Boston
STATE: MA
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/105,678A
FILING DATE: 26-JUN-1998
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 172118/1997
FILING DATE: 27-JUN-1997
ATTORNEY/AGENT INFORMATION:
NAME: Conlin, David G.
REGISTRATION NUMBER: 27,026
REFERENCE/DOCKET NUMBER: 48466-342
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-523-3400
TELEFAX: 617-523-6440
INFORMATION FOR SEQ ID NO: 49:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-09-105-678A-49

Query Match 100.0%; Score 239; DB 3; Length 146;
Best Local Similarity 100.0%; Pred. No. 1.9e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGGFLRIHPDGRVDSREKSDPHIKLOQAERGVVSIKGV 45
DB 24 YCKNGGFLRIHPDGRVDSREKSDPHIKLOQAERGVVSIKGV 68

RESULT 15
US-09-421-208-49
Sequence 49, Application US/09421208
Patent No. 6258561
GENERAL INFORMATION:
APPLICANT: Suenaga, Masato
APPLICANT: Moriya, Takeo
APPLICANT: Tanaka, Yoko
APPLICANT: Nishimura, Osamu
TITLE OF INVENTION: METHOD OF PRODUCING A 19P2 LIGAND
NUMBER OF SEQUENCES: 52
CORRESPONDENCE ADDRESS:
ADDRESSEE: DIKE, BRONSTEIN, ROBERTS & CUSHMAN, LLP
STREET: 130 Water Street
CITY: Boston
STATE: MA
COUNTRY: USA
ZIP: 02109
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/421,208
FILING DATE:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 09/105,678
FILING DATE: 26-JUN-1998
APPLICATION NUMBER: JP 172118/1997
FILING DATE: 27-JUN-1997
ATTORNEY/AGENT INFORMATION:
NAME: Conlin, David G.

REGISTRATION NUMBER: 27,026
REFERENCE/DOCKET NUMBER: 48466-342
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-523-3400
TELEFAX: 617-523-6440
INFORMATION FOR SEQ ID NO: 49:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: peptide
US-09-421-208-49

Query Match 100.0%; Score 239; DB 3; Length 146;
Best Local Similarity 100.0%; Pred. No. 1.9e-27;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGGFPLRIHPDGRVDGVREKSDPHIKLQLQAERGVVSIKGV 45
DB 24 YCKNGGFPLRIHPDGRVDGVREKSDPHIKLQLQAERGVVSIKGV 68

Search completed: January 30, 2004, 11:47:50
Job time : 20.1538 secs

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:44:49 ; Search time 44.5365 Seconds
(without alignments)
209.978 Million cell updates/sec

Title: US-09-266-543-1

Perfect score: 239
Sequence: 1 YCKNGGFPLRIHPDGRVDGV.....PHIKLQAEERGVSTKGV 45

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched: 789580 seqs, 207824079 residues

Total number of hits satisfying chosen parameters: 789580

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database : Listing first 45 summaries

Published Applications AA.*
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2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep.*
3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep.*
4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep.*
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6: /cgn2_6/ptodata/2/pubpaa/PCTUS_PUBCOMB.pep.*
7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep.*
8: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep.*
9: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep.*
10: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep.*
11: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep.*
12: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep.*
13: /cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep.*
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16: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep.*
17: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep.*
18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	239	100.0	134	10	US-09-901-938-24
2	239	100.0	134	12	US-10-379-334-24
3	239	100.0	145	11	US-09-940-601-3
4	239	100.0	146	9	US-09-802-365-2
5	239	100.0	146	9	US-09-802-365-4
6	239	100.0	146	9	US-09-771-302-2
7	239	100.0	146	10	US-09-886-856-2
8	239	100.0	146	10	US-09-886-856-4
9	239	100.0	146	12	US-10-184-708-2
10	239	100.0	146	12	US-10-395-541-2
11	239	100.0	146	12	US-10-395-541-6
12	239	100.0	146	14	US-10-131-965-6
13	239	100.0	146	14	US-10-131-965-5
14	239	100.0	146	15	US-10-108-195-2
15	239	100.0	146	15	US-10-108-195-3

16	239	100.0	146	15	US-10-108-195-4	Sequence 4, Appl1
17	239	100.0	146	15	US-10-108-195-7	Sequence 7, Appl1
18	239	100.0	146	15	US-10-168-050-3	Sequence 3, Appl1
19	239	100.0	146	15	US-10-108-841B-1	Sequence 1, Appl1
20	239	100.0	147	11	US-09-820-596-8	Sequence 8, Appl1
21	239	100.0	150	13	US-10-016-447-8	Sequence 8, Appl1
22	239	100.0	154	12	US-10-192-988-24	Sequence 24, Appl1
23	239	100.0	155	9	US-09-822-485-5	Sequence 5, Appl1
24	239	100.0	155	9	US-09-802-365-6	Sequence 6, Appl1
25	239	100.0	155	9	US-09-802-365-8	Sequence 8, Appl1
26	239	100.0	155	9	US-09-251-263-10	Sequence 10, Appl1
27	239	100.0	155	9	US-09-425-021-10	Sequence 10, Appl1
28	239	100.0	155	10	US-09-886-856-6	Sequence 6, Appl1
29	239	100.0	155	10	US-09-886-856-8	Sequence 8, Appl1
30	239	100.0	155	10	US-09-749-728B-7	Sequence 7, Appl1
31	239	100.0	155	11	US-09-902-460-2	Sequence 2, Appl1
32	239	100.0	155	11	US-09-345-373-17	Sequence 17, Appl1
33	239	100.0	155	11	US-09-775-964-3	Sequence 3, Appl1
34	239	100.0	155	12	US-10-189-360-11	Sequence 11, Appl1
35	239	100.0	155	12	US-10-192-988-14	Sequence 14, Appl1
36	239	100.0	155	12	US-10-374-207-5	Sequence 5, Appl1
37	239	100.0	155	12	US-10-395-541-5	Sequence 5, Appl1
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39	239	100.0	155	12	US-10-123-481-4	Sequence 4, Appl1
40	239	100.0	155	12	US-10-131-985-5	Sequence 5, Appl1
41	239	100.0	155	12	US-10-315-431-28	Sequence 28, Appl1
42	239	100.0	155	12	US-10-347-177-9	Sequence 9, Appl1
43	239	100.0	155	15	US-10-081-347-28	Sequence 28, Appl1
44	239	100.0	155	15	US-10-108-195-1	Sequence 1, Appl1
45	239	100.0	155	16	US-10-075-446-17	Sequence 17, Appl1

ALIGNMENTS

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RESULT 1
US-09-901-938-24
; Sequence 24, Application US/09901938
; Patent No. US20020156001A1
; GENERAL INFORMATION:
; APPLICANT: ECONS, Michael
; APPLICANT: WHITE, Kenneth
; APPLICANT: STROM, Tim
; APPLICANT: MEITINGER, Thomas
; TITLE OF INVENTION: NOVEL FIBROBLAST GROWTH FACTOR (RGF23) AND METHODS FOR USE
; FILE REFERENCE: 053684-5001
; CURRENT APPLICATION NUMBER: US/09/901,938
; CURRENT FILING DATE: 2001-07-10
; PRIOR APPLICATION NUMBER: 60/219,137
; PRIOR FILING DATE: 2000-07-19
; NUMBER OF SEQ ID NOS: 34
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 24
; LENGTH: 134
; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-901-938-24

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Best Local Similarity 100.0%; Pred. No. 2.8e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 YCKNGGFPLRIHPDGRVDGRKSPHKLQQAERGVSTKGV 45
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DB      12 YCKNGGFPLRIHPDGRVDGRKSPHKLQQAERGVSTKGV 56

RESULT 2
US-10-379-334-24
; Sequence 24, Application US/10379334
; Publication No. US20030181379A1
; GENERAL INFORMATION:
; APPLICANT: ECONS, Michael

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; APPLICANT: WHITE, Kenneth
; APPLICANT: STROM, Tim
; APPLICANT: METTINGER, Thomas
; TITLE OF INVENTION: NOVEL FIBROBLAST GROWTH FACTOR (FGF23) AND METHODS FOR USE
; FILE REFERENCE: 053884-5001
; CURRENT APPLICATION NUMBER: US/10/379,334
; CURRENT FILING DATE: 2003-03-04
; PRIOR APPLICATION NUMBER: US/09/901,938
; PRIOR FILING DATE: 2001-07-10
; PRIOR APPLICATION NUMBER: 60/219,137
; PRIOR FILING DATE: 2000-07-19
; NUMBER OF SEQ ID NOS: 34
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 24
; LENGTH: 134
; TYPE: PRT
; ORGANISM: Homo Sapiens
US-10-379-334-24

Query Match          100.0%; Score 239; DB 12; Length 134;
Best Local Similarity 100.0%; Pred. No. 2,8e-24;
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DB 12 YCKNGFFLRHPDGRVDGVREKSDPHIKLQLQAEERGVVISIKGV 56

RESULT 3
US-09-940-601-3
; Sequence 3, Application US/09940601
; Publication No. US20030004319A1
; GENERAL INFORMATION:
; APPLICANT: Basilio, Claudio
; APPLICANT: Dellì Bovì, Pasquale
; TITLE OF INVENTION: MAMMALIAN GROWTH FACTOR
; FILE REFERENCE: 5986/13586-USC
; CURRENT APPLICATION NUMBER: US/09/940,601
; CURRENT FILING DATE: 2001-08-27
; PRIOR APPLICATION NUMBER: 08/775,567
; PRIOR FILING DATE: 1996-12-31
; PRIOR APPLICATION NUMBER: 08/056,482
; PRIOR FILING DATE: 1993-05-03
; PRIOR APPLICATION NUMBER: 07/806,771
; PRIOR FILING DATE: 1991-12-06
; PRIOR APPLICATION NUMBER: 07/177,506
; PRIOR FILING DATE: 1988-04-04
; PRIOR APPLICATION NUMBER: 07/062,925
; PRIOR FILING DATE: 1987-06-16
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 3
; LENGTH: 145
; TYPE: PRT
; ORGANISM: Bos taurus
US-09-940-601-3

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Best Local Similarity 100.0%; Pred. No. 3e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 24 YCKNGFFLRHPDGRVDGVREKSDPHIKLQLQAEERGVVISIKGV 68

RESULT 4
US-09-802-365-2
; Sequence 2, Application US/09802365
; Patent No. US20020032153A1
; GENERAL INFORMATION:
; APPLICANT: Whitehouse, Martha Jo
; TITLE OF INVENTION: Methods and Compositions for the
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; TITLE OF INVENTION: Treatment and Prevention of Erectile Dysfunction
; FILE REFERENCE: 1671,003
; CURRENT APPLICATION NUMBER: US/09/802,365
; CURRENT FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: 60/188,480
; PRIOR FILING DATE: 2000-03-10
; PRIOR APPLICATION NUMBER: 60/203,415
; PRIOR FILING DATE: 2000-05-11
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 146
; TYPE: PRT
; ORGANISM: Bos taurus
US-09-802-365-2

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Best Local Similarity 100.0%; Pred. No. 3.1e-24;
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RESULT 5
US-09-802-365-4
; Sequence 4, Application US/09802365
; Patent No. US20020032153A1
; GENERAL INFORMATION:
; APPLICANT: Whitehouse, Martha Jo
; TITLE OF INVENTION: Methods and Compositions for the
; TITLE OF INVENTION: Treatment and Prevention of Erectile Dysfunction
; FILE REFERENCE: 1671,003
; CURRENT APPLICATION NUMBER: US/09/802,365
; CURRENT FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: 60/188,480
; PRIOR FILING DATE: 2000-03-10
; PRIOR APPLICATION NUMBER: 60/203,415
; PRIOR FILING DATE: 2000-05-11
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 146
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-802-365-4

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Best Local Similarity 100.0%; Pred. No. 3.1e-24;
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DB 24 YCKNGFFLRHPDGRVDGVREKSDPHIKLQLQAEERGVVISIKGV 68

RESULT 6
US-09-771-302-2
; Sequence 2, Application US/09771302
; Patent No. US20020072489A1
; GENERAL INFORMATION:
; APPLICANT: Whitehouse, Martha J.
; TITLE OF INVENTION: Angiogenically Effective Unit Dose of FGF-2 and Method
; TITLE OF INVENTION: of Use
; FILE REFERENCE: 1296/12169US04
; CURRENT APPLICATION NUMBER: US/09/771,302
; CURRENT FILING DATE: 2001-01-26
; PRIOR APPLICATION NUMBER: 09/385,114
; PRIOR FILING DATE: 1999-08-27
; PRIOR APPLICATION NUMBER: 60/104,102
; PRIOR FILING DATE: 1998-10-13
; NUMBER OF SEQ ID NOS: 3
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SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 2
LENGTH: 146
TYPE: PRT
ORGANISM: Bovis bovinus
US-09-771-302-2

Query Match 100.0%; Score 239; DB 9; Length 146;
Best Local Similarity 100.0%; Pred. No. 3.1e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 24 YCKNGFFLRHPDGRVDGVREKSDPHIKLQLQAEERGVSIKGV 68

RESULT 7
US-09-886-856-2
Sequence 2, Application US/09886856
Patent No. US20020115603A1
GENERAL INFORMATION:
APPLICANT: Whitehouse, Martha Jo
TITLE OF INVENTION: Methods and Compositions for the
FILE REFERENCE: P16090.004
CURRENT FILING DATE: 2001-06-21
PRIOR APPLICATION NUMBER: 60/213,504
PRIOR FILING DATE: 2000-06-22
PRIOR APPLICATION NUMBER: 60/264,572
PRIOR FILING DATE: 2000-01-26
PRIOR APPLICATION NUMBER: 60/276,549
PRIOR FILING DATE: 2001-03-16
NUMBER OF SEQ ID NOS: 9
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 146
TYPE: PRT
ORGANISM: Bos taurus
US-09-886-856-2

Query Match 100.0%; Score 239; DB 10; Length 146;
Best Local Similarity 100.0%; Pred. No. 3.1e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 24 YCKNGFFLRHPDGRVDGVREKSDPHIKLQLQAEERGVSIKGV 68

RESULT 8
US-09-886-856-4
Sequence 4, Application US/09886856
Patent No. US20020115603A1
GENERAL INFORMATION:
APPLICANT: Whitehouse, Martha Jo
TITLE OF INVENTION: Methods and Compositions for the
FILE REFERENCE: P16090.004
CURRENT FILING DATE: 2001-06-21
PRIOR APPLICATION NUMBER: 60/213,504
PRIOR FILING DATE: 2000-06-22
PRIOR APPLICATION NUMBER: 60/264,572
PRIOR FILING DATE: 2000-01-26
PRIOR APPLICATION NUMBER: 60/276,549
PRIOR FILING DATE: 2001-03-16
NUMBER OF SEQ ID NOS: 9
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 4
LENGTH: 146
TYPE: PRT
ORGANISM: Homo sapiens

US-09-886-856-4

Query Match 100.0%; Score 239; DB 10; Length 146;
Best Local Similarity 100.0%; Pred. No. 3.1e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 24 YCKNGFFLRHPDGRVDGVREKSDPHIKLQLQAEERGVSIKGV 68

RESULT 9
US-10-184-708-2
Sequence 2, Application US/10184708
Publication No. US20030166550A1
GENERAL INFORMATION:
APPLICANT: Whitehouse, Martha J
TITLE OF INVENTION: Angiogenically Effective Unit Dose of FGF-2 and Method
FILE REFERENCE: 1296/12169US04
CURRENT FILING DATE: 2002-06-28
PRIOR APPLICATION NUMBER: US/10/184,708
PRIOR FILING DATE: 1999-08-27
PRIOR APPLICATION NUMBER: 60/104,103
PRIOR FILING DATE: 1998-10-13
PRIOR APPLICATION NUMBER: 60/104,102
PRIOR FILING DATE: 1998-10-13
NUMBER OF SEQ ID NOS: 3
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 2
LENGTH: 146
TYPE: PRT
ORGANISM: Bovis bovinus
US-10-184-708-2

Query Match 100.0%; Score 239; DB 12; Length 146;
Best Local Similarity 100.0%; Pred. No. 3.1e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 24 YCKNGFFLRHPDGRVDGVREKSDPHIKLQLQAEERGVSIKGV 68

RESULT 10
US-10-395-541-2
Sequence 2, Application US/10395541
Publication No. US20030171294A1
GENERAL INFORMATION:
APPLICANT: Hung, David
APPLICANT: Annex, Brian
APPLICANT: Landolfo, Kevin
APPLICANT: Kavanaugh, W.
TITLE OF INVENTION: DOSE OF ANGIOGENIC FACTOR AND METHOD OF ADMINISTERING TO IMPROVE
FILE REFERENCE: 1606.002/12443US02
CURRENT FILING DATE: 2003-03-24
PRIOR APPLICATION NUMBER: US/10/395,541
PRIOR FILING DATE: 2000-08-11
NUMBER OF SEQ ID NOS: 6
SOFTWARE: PatentIn version 3.0
SEQ ID NO 2
LENGTH: 146
TYPE: PRT
ORGANISM: CDNA BOVINE FGF-2
US-10-395-541-2

Query Match 100.0%; Score 239; DB 12; Length 146;
Best Local Similarity 100.0%; Pred. No. 3.1e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 24 YKNGGFRLRHPDGRVGVREKSPHKLQLOAERGVSIGV 68

RESULT 11
US-10-395-541-6
; Sequence 6, Application US/10395541
; Publication No. US20030171294A1
; GENERAL INFORMATION:
; APPLICANT: Hung, David
; APPLICANT: Annex, Brian
; APPLICANT: Landolfo, Kevin
; APPLICANT: Kavanaugh, W.
; TITLE OF INVENTION: DOSE OF ANGIOGENIC FACTOR AND METHOD OF ADMINISTERING TO IMPROVE
; TITLE OF INVENTION: MYOCARDIAL BLOOD FLOW
; FILE REFERENCE: 1606.002/12443US02
; CURRENT APPLICATION NUMBER: US/10/395,541
; PRIOR FILING DATE: 2003-03-24
; PRIOR APPLICATION NUMBER: US/09/637,471
; PRIOR FILING DATE: 2000-08-11
; NUMBER OF SEQ ID NOS: 6
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 6
; LENGTH: 146
; TYPE: PRT
; ORGANISM: Mature Human FGF-2
US-10-395-541-6

Query Match 100.0%; Score 239; DB 12; Length 146;
Best Local Similarity 100.0%; Pred. No. 3.1e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 24 YKNGGFRLRHPDGRVGVREKSPHKLQLOAERGVSIGV 68

RESULT 12
US-10-131-965-3
; Sequence 3, Application US/10131965
; Publication No. US20020165160A1
; GENERAL INFORMATION:
; APPLICANT: Whitehouse, Martha J.
; APPLICANT: Kavanaugh, Michael W.
; TITLE OF INVENTION: Angiogenically Effective Unit Dose of FGF and Method of
; TITLE OF INVENTION: Administering
; FILE REFERENCE: 1296/12169US05
; CURRENT APPLICATION NUMBER: US/10/131,965
; PRIOR FILING DATE: 2002-04-25
; PRIOR APPLICATION NUMBER: US/09/417,721
; PRIOR FILING DATE: 1999-10-13
; PRIOR APPLICATION NUMBER: 60/104,103
; NUMBER OF SEQ ID NOS: 15
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 3
; LENGTH: 146
; TYPE: PRT
; ORGANISM: Human FGF-2
US-10-131-965-3

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Best Local Similarity 100.0%; Pred. No. 3.1e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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DB 24 YKNGGFRLRHPDGRVGVREKSPHKLQLOAERGVSIGV 68

RESULT 13
US-10-131-965-5

; Sequence 5, Application US/10131965
; Publication No. US20020165160A1
; GENERAL INFORMATION:
; APPLICANT: Whitehouse, Martha J.
; APPLICANT: Kavanaugh, Michael W.
; TITLE OF INVENTION: Angiogenically Effective Unit Dose of FGF and Method of
; TITLE OF INVENTION: Administering
; FILE REFERENCE: 1296/12169US05
; CURRENT APPLICATION NUMBER: US/10/131,965
; PRIOR FILING DATE: 2002-04-25
; PRIOR APPLICATION NUMBER: US/09/417,721
; PRIOR FILING DATE: 1999-10-13
; PRIOR APPLICATION NUMBER: 60/104,103
; PRIOR FILING DATE: 1998-10-13
; NUMBER OF SEQ ID NOS: 15
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 5
; LENGTH: 146
; TYPE: PRT
; ORGANISM: Bovine FGF-2
US-10-131-965-5

Query Match 100.0%; Score 239; DB 14; Length 146;
Best Local Similarity 100.0%; Pred. No. 3.1e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YKNGGFRLRHPDGRVGVREKSPHKLQLOAERGVSIGV 45
DB 24 YKNGGFRLRHPDGRVGVREKSPHKLQLOAERGVSIGV 68

RESULT 14
US-10-108-195-2
; Sequence 2, Application US/10108195
; Publication No. US20030008620A1
; GENERAL INFORMATION:
; APPLICANT: Kwan, Chi-Pong
; APPLICANT: Venkataraman, Ganesh
; APPLICANT: Shrivier, Zachary
; APPLICANT: Raman, Rahul
; APPLICANT: Saasisekharan, Ram
; TITLE OF INVENTION: Methods and Products Related to FGF Dimerization
; FILE REFERENCE: M00656/70076
; CURRENT APPLICATION NUMBER: US/10/108,195
; PRIOR FILING DATE: 2002-03-27
; PRIOR APPLICATION NUMBER: US 60/279,165
; PRIOR FILING DATE: 2001-03-27
; NUMBER OF SEQ ID NOS: 15
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 146
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of Native FGF2 with 9 N-terminal Residues Deleted
US-10-108-195-2

Query Match 100.0%; Score 239; DB 15; Length 146;
Best Local Similarity 100.0%; Pred. No. 3.1e-24;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YKNGGFRLRHPDGRVGVREKSPHKLQLOAERGVSIGV 45
DB 24 YKNGGFRLRHPDGRVGVREKSPHKLQLOAERGVSIGV 68

RESULT 15
US-10-108-195-3
; Sequence 3, Application US/10108195
; Publication No. US20030008620A1
; GENERAL INFORMATION:
; APPLICANT: Kwan, Chi-Pong
; APPLICANT: Venkataraman, Ganesh

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OM protein - protein search, using sw model

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Title: US-09-266-543-1
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Sequence: 1 YCKNGFFLRTHPDGRVDGV.....PHIKLQAEKRGVSIKGV 45

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Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
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4	239	100.0	210	A32398	basic fibroblast g
5	238	99.6	154	A31674	basic fibroblast g
6	238	99.6	154	C37360	basic fibroblast g
7	232	97.1	189	A48834	basic fibroblast g
8	231	96.7	164	S31622	basic fibroblast g
9	199	83.3	155	A40117	basic fibroblast g
10	156	65.3	155	A60721	acidic fibroblast
11	156	65.3	155	S04147	acidic fibroblast
12	156	65.3	155	D37360	acidic fibroblast
13	154	64.4	155	JM0055	acidic fibroblast
14	153	64.0	155	A60130	acidic fibroblast
15	148	61.9	152	JH0476	acidic fibroblast
16	148	61.9	155	A33665	acidic fibroblast
17	146	61.1	155	GKBOA	acidic fibroblast
18	109	45.6	60	JH0708	fibroblast growth
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23	94	39.3	264	A34268	fibroblast growth
24	94	39.3	264	A36207	fibroblast growth
25	90	37.7	266	S68144	fibroblast growth
26	90	37.7	262	TVMSHS	fibroblast growth
27	85	35.6	267	TVHUF5	fibroblast growth
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29	84.5	35.4	220	I50588	fibroblast growth

30	83	34.7	245	1	TVMS12	transforming prote
31	82	34.3	168	2	JG0184	fibroblast growth
32	82	34.3	187	2	S23595	embryonic fibrobla
33	79	33.1	192	2	S54407	embryonic fibrobla
34	79	33.1	239	1	S04742	fibroblast growth
35	77.5	32.4	208	2	UC7082	fibroblast growth
36	76.5	32.0	237	1	S39582	transforming prote
37	75.5	31.6	211	2	JC7353	fibroblast growth
38	75.5	31.6	212	2	JC7511	fibroblast growth
39	70.5	29.5	121	2	S68145	fibroblast growth
40	69.5	29.1	208	2	S66486	fibroblast growth
41	69.5	29.1	208	2	A48137	fibroblast growth
42	67.5	28.2	207	2	JC5940	fibroblast growth
43	67.5	28.2	207	2	JC5941	fibroblast growth
44	66.5	27.8	194	2	I48610	keratinocyte growt
45	65.5	27.4	194	1	A36301	fibroblast growth

ALIGNMENTS

RESULT 1
146711
fibroblast growth factor - rabbit (fragment)
C/Species: Oryctolagus cuniculus (domestic rabbit)
C/Date: 14-Feb-1997 #sequence_revision 14-Feb-1997 #text_change 16-Jul-1999
C/Accession: 146711
R/Winkler, J.A.; Friesel, R.; Alberts, G.F.; Janat, M.F.; Lian, G.
Am. J. Pathol. 143, 518-527, 1993
A/Title: Elevated expression of basic fibroblast growth factor in an immortalized rabbit
A/Reference number: 146711; PMID:93343209; PMID:8342599
A/Accession: 146711
A/Status: preliminary; translated from GB/EMBL/DBJ
A/Molecule type: mRNA
A/Residues: 1-137 <MIN>
A/Cross-references: GB:L12034; NID:G165014; PIDN:AAA31248.1; PID:G165015
C/Suprafamily: fibroblast growth factor

Query Match
Best Local Similarity 100.0%; Score 239; DB 2; Length 137;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy
1 YCKNGFFLRTHPDGRVDGVREKSDPHIKLQAEKRGVSIKGV 45
Db
24 YCKNGFFLRTHPDGRVDGVREKSDPHIKLQAEKRGVSIKGV 68

RESULT 2
S00185
basic fibroblast growth factor - sheep
N/Alternate names: prostatorpin
C/Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C/Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
C/Accession: S00185
R/Simpson, R.J.; Moritz, R.L.; Lloyd, C.J.; Fabri, L.J.; Nice, E.C.; Rubira, M.R.; Burge
FEBS Lett. 224, 128-132, 1987
A/Title: Primary structure of ovine pituitary basic fibroblast growth factor.
A/Reference number: S00185; MUID:86053577; PMID:3678486
A/Accession: S00185
A/Molecule type: protein
A/Residues: 1-146 <SIM>
C/Suprafamily: fibroblast growth factor
C/Keywords: growth factor; heparin binding; mitogen
F18-22/Region: heparin binding #status predicted
F107-110/Region: heparin binding #status predicted

Query Match
Best Local Similarity 100.0%; Score 239; DB 1; Length 146;
Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy
1 YCKNGFFLRTHPDGRVDGVREKSDPHIKLQAEKRGVSIKGV 45
Db
24 YCKNGFFLRTHPDGRVDGVREKSDPHIKLQAEKRGVSIKGV 68

RESULT 3

GRB08
 basic fibroblast growth factor precursor - bovine (fragment)
 N:Alternate names: bFGF; kidney-derived growth factor; prolatropin
 C:Species: Bos primigenius taurus (cattle)
 C:Date: 13-Aug-1986 #sequence revision 02-Jun-1995 #text change 24-Nov-1999
 A:Accession: A24663; A32878; A33784; A61550; A60310; A61094; A01386; A60316; A22
 R:Abraham, J.A.; Mergia, A.; Whang, J.L.; Tumbolo, A.; Friedman, J.; Hjerrild, K.A.; Gosp
 Science 233, 545-548, 1986
 A:Title: Nucleotide sequence of a bovine clone encoding the angiogenic protein, basic fi
 A:Reference number: A24290; MUID:86261806; PMID:2425435
 A:Accession: A24663
 A:Molecule type: mRNA
 A:Residues: 3-157 <ABR>
 A:Cross-references: GB:M13440; NID:9163049; PIDN:AAA30518.1; PID:9163050
 A:Experimental source: pituitary gland
 R:Abraham, J.A.; Whang, J.L.; Tumbolo, A.; Mergia, A.; Fiddes, J.C.
 Cold Spring Harb. Symp. Quant. Biol. 51, 657-668, 1986
 A:Title: Human basic fibroblast growth factor: nucleotide sequence, genomic organization
 A:Reference number: A50924; MUID:87217066; PMID:3472745
 A:Accession: A32878
 A:Molecule type: mRNA
 A:Residues: 3-157 <AB2>
 R:Milner, P.G.; Li, Y.S.; Hoffman, R.M.; Kodner, C.M.; Siegel, N.R.; Denel, T.F.
 Biochem. Biophys. Res. Commun. 165, 1096-1103, 1989
 A:Title: A novel 17 kd heparin-binding growth factor (HBGF-8) in bovine uterus: purifica
 A:Reference number: A33784; MUID:90121211; PMID:2610682
 A:Accession: A33784
 A:Molecule type: protein
 A:Residues: 1-14 <MTL>
 A>Note: demonstration of a possible alternative initiator or splice junction
 R:Bertrami, J.; Hearn, M.T.W.
 Mol. Cell. Endocrinol. 51, 187-199, 1987
 A:Title: Isolation, characterization and tissue localisation of an N-terminal-truncated
 A:Reference number: A61550; MUID:87247652; PMID:3596000
 A:Accession: A61550
 A:Molecule type: protein
 A:Residues: 16-35 <BER>
 R:Ueno, N.; Baird, A.; Esch, F.; Ling, N.; Guillemin, R.
 Mol. Cell. Endocrinol. 49, 189-194, 1987
 A:Title: Isolation and partial characterization of basic fibroblast growth factor from h
 A:Reference number: A61551; MUID:87162856; PMID:3556754
 A:Accession: A61551
 A:Molecule type: protein
 A:Residues: 27-35, 'X', 37-41 <UB3>
 A:Experimental source: testes
 A>Note: this form appears to be identical to the renal form
 R:Ueno, N.; Baird, A.; Esch, F.; Shimazaki, S.; Ling, N.; Guillemin, R.
 Regul. Pept. 16, 135-145, 1986
 A:Title: Purification and partial characterization of a mitogenic factor from bovine liv
 A:Reference number: A60310; MUID:87119165; PMID:3809608
 A:Accession: A60310
 A:Molecule type: protein
 A:Residues: 23-35, 'X', 37-42 <UEN>
 A:Experimental source: liver
 R:Ueno, N.; Baird, A.; Esch, F.; Ling, N.; Guillemin, R.
 Biochem. Biophys. Res. Commun. 138, 580-588, 1986
 A:Title: Isolation of an amino terminal extended form of basic fibroblast growth factor.
 A:Reference number: A24819; MUID:86295737; PMID:3741423
 A:Contents: annotation
 A>Note: the amino end of this form was blocked; the peptide composition matched what was
 R:Gospodarowicz, D.; Baird, A.; Cheng, J.; Lui, G.M.; Esch, F.; Bohlen, P.
 Endocrinology 118, 82-90, 1986
 A:Title: Isolation of fibroblast growth factor from bovine adrenal gland: physicochemical
 A:Reference number: A61094; MUID:86081530; PMID:3940857
 A:Accession: A61094
 A:Molecule type: protein
 A:Residues: 12-25, 27-35, 'X', 37-40 <GOS>
 A:Experimental source: adrenal gland
 R:Esch, F.; Baird, A.; Ling, N.; Ueno, N.; Hill, F.; Denoroy, L.; Klepper, R.; Gospodarow
 Proc. Natl. Acad. Sci. U.S.A. 82, 6507-6511, 1985

A:Title: Primary structure of bovine pituitary basic fibroblast growth factor (FGF) and
 A:Reference number: A01386; MUID:86016731; PMID:3863109
 A:Accession: A01386
 A:Molecule type: protein
 A:Residues: 12-157 <BSC>
 A:Experimental source: pituitary gland
 R:Baird, A.; Esch, F.; Bohlen, P.; Ling, N.; Gospodarowicz, D.
 Regul. Pept. 12, 201-213, 1985
 A:Title: Isolation and partial characterization of an endothelial cell growth factor fro
 A:Reference number: A60316; MUID:86095426; PMID:4081126
 A:Accession: A60316
 A:Molecule type: protein
 A:Residues: 27-35, 'X', 37-43 <BAI>
 A:Experimental source: kidney
 R:Bohlen, P.; Baird, A.; Esch, F.; Ling, N.; Gospodarowicz, D.
 Proc. Natl. Acad. Sci. U.S.A. 81, 5364-5368, 1984
 A:Title: Isolation and partial molecular characterization of pituitary fibroblast growth
 A:Reference number: A22054; MUID:84298139; PMID:6591194
 A:Accession: A22054
 A:Molecule type: protein
 A:Residues: 12-26 <BOH>
 C:Comment: The acidic and basic fibroblast growth factors are the major endothelial-cell
 cell types in vitro (although bFGF is 30-100 times more potent than aFGF in stimulating c
 C:Comment: This protein binds heparin more strongly than does aFGF.
 C:Superfamily: fibroblast growth factor
 C:Keywords: alternative splicing; angiogenesis; blocked amino end; growth factor; hepari
 F:1-157/Product: basic fibroblast growth factor, uterine form #status predicted <MAT>
 F:4-157/Product: basic fibroblast growth factor, pituitary gamma form #status experiment
 F:12-157/Product: basic fibroblast growth factor, pituitary alpha form #status experimen
 F:16-157/Product: basic fibroblast growth factor, pituitary short form #status predicted
 F:23-157/Product: basic fibroblast growth factor, hepatic form #status experimental <MAT
 F:27-157/Product: basic fibroblast growth factor, renal form #status experimental <MAT6>
 F:29-33, 118-121/Region: heparin binding #status predicted
 F:4/Modified site: blocked amino end (Ala) (in mature form pituitary gamma) (probably ac

Query Match 100.0%; Score 239; DB 1; Length 157;
 Best local similarity 100.0%; Pred. NO. 3, 2e-24;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGGFLRTHPDGRVDGVRKSDPHKIQLOAEERGVISIKGV 45
 DB 35 YCKNGGFLRTHPDGRVDGVRKSDPHKIQLOAEERGVISIKGV 79

RESULT 4
 A22398
 basic fibroblast growth factor precursor, 22.5K form - human
 N:Alternate names: bFGF; fibroblast growth factor 2; prostatic growth factor; prostatic
 N:Contains: basic fibroblast growth factor, 18K form
 C:Species: Homo sapiens (man)
 C:Date: 31-Jul-1989 #sequence revision 31-Dec-1993 #text change 21-Jul-2000
 A:Accession: A22398; A61537; A26642; B32678; S00297; A54316; B54316; A33624; A25824; B24
 R:Pieris, H.; Kagehad, M.; Piers, A.C.; Klagesbun, M.; Leliss, J.M.; Liaunum, P.; Chalou
 Proc. Natl. Acad. Sci. U.S.A. 86, 1836-1840, 1989
 A:Title: High molecular mass forms of basic fibroblast growth factor are initiated by ad
 A:Reference number: A32398; MUID:89184522; PMID:2538817
 A:Accession: A32398
 A:Molecule type: mRNA
 A:Residues: 1-210 <PR>
 A:Cross-references: GB:J04513; NID:9183083; PIDN:AAA52531.1; PID:9459811
 R:Shibata, F.; Baird, A.; Florkiewicz, R.Z.
 Growth Factors 4, 277-287, 1991
 A:Title: Functional characterization of the human basic fibroblast growth factor gene pr
 A:Reference number: A61537; MUID:92110035; PMID:1764264
 A:Accession: A61537
 A:Molecule type: DNA
 A:Residues: 1-114 <SH>
 A>Note: authors translated the codon GGA for residue 47 as Ala
 R:Kurokawa, T.; Sasaki, R.; Iwane, M.; Igarashi, K.
 FEBS Lett. 213, 189-194, 1987
 A:Title: Cloning and expression of cDNA encoding human basic fibroblast growth factor.
 A:Reference number: A26642; MUID:87162468; PMID:2425575
 A:Accession: A26642

A.Molecule type: mRNA
 A.Residues: 56-210 <KOR>
 A.Cross-references: GB:M27968; NID:G182562; PIDN:AAA52534.1; PID:G182563
 R.Abrham, J.A.; Whang, J.L.; Tumuldo, A.; Mergia, A.; Fiddes, J.C.
 Cold Spring Harb. Symp. Quant. Biol. 51, 657-668, 1986
 A.Title: Human basic fibroblast growth factor: nucleotide sequence, genomic organization
 A.Reference number: A90924; MUID:87217066; PMID:3472745
 A.Accession: B32878
 A.Molecule type: mRNA
 A.Residues: 56-210 <ABR>
 A.Note: the authors translated the codon GAA for residue 108 as Gly
 R.Abrham, J.A.; Whang, J.L.; Tumuldo, A.; Mergia, A.; Friedman, J.; Gospodarowicz, D.; F
 EMBO J. 5, 2523-2528, 1986
 A.Title: Human basic fibroblast growth factor: nucleotide sequence and genomic organizat
 A.Reference number: S00297; MUID:87053817; PMID:3780670
 A.Accession: S00297
 A.Status: not compared with conceptual translation
 A.Molecule type: DNA
 A.Residues: 1-155 <AB2>
 A.Note: the authors translated the codon GAA for residue 108 as Gly
 R.Shimoyama, Y.; Gotoh, M.; Ino, Y.; Sakamoto, M.; Kato, K.; Hirohashi, S.
 Jpn. J. Cancer Res. 82, 1263-1270, 1991
 A.Title: Characterization of high-molecular-mass forms of basic fibroblast growth factor
 reogenesis.
 A.Reference number: A54316; MUID:92091228; PMID:1721615
 A.Accession: A54316
 A.Molecule type: protein
 A.Residues: 'XX', 86-88, 'X', 90-91, 'X', 93-95 <SH3>
 A.Experimental source: C-121 hepatocellular carcinoma cell line
 A.Note: sequence extracted from NCBI backbone (NCBI:71595)
 A.Accession: B54316
 A.Molecule type: protein
 A.Residues: 'XXX', 19, 'X', 21-29 <SH2>
 A.Note: sequence extracted from NCBI backbone (NCBI:71594)
 R.Pelge, J.D.; Bradley, J.D.; Frydberg, K.; Farris, J.; Consens, L.C.; Barr, P.J.; Baird,
 J. Cell Biol. 109, 3105-3114, 1989
 A.Title: Differential effects of heparin, fibronectin, and laminin on the phosphorylation
 A.Reference number: A33624; MUID:90078343; PMID:2592418
 A.Accession: A33624
 A.Status: preliminary
 A.Molecule type: protein
 A.Residues: 57-210 <FEI>
 R.Story, M.T.; Esch, F.; Shimasaki, S.; Saase, J.; Jacobs, S.C.; Lawson, R.K.
 Biochem. Biophys. Res. Commun. 142, 702-709, 1987
 A.Title: Amino-terminal sequence of a large form of basic fibroblast growth factor isola
 A.Reference number: A25824; MUID:87156686; PMID:2435284
 A.Accession: A25824
 A.Molecule type: protein
 A.Residues: 57-77 <STO>
 A.Experimental source: prostate
 R.Gimenez-Gallardo, G.; Conn, G.; Hatcher, V.B.; Thomas, K.A.
 Biochem. Biophys. Res. Commun. 135, 541-548, 1986
 A.Title: Human brain-derived acidic and basic fibroblast growth factors: amino terminal
 A.Reference number: A90122; MUID:86186784; PMID:3964259
 A.Accession: B24243
 A.Molecule type: protein
 A.Residues: 65-102, 'X', 104-105 <GIM>
 A.Experimental source: brain
 R.Gautschi, P.; Frazer-Schröder, M.; Böhlen, P.
 FEBS Lett. 204, 203-207, 1986
 A.Title: Partial molecular characterization of endothelial cell mitogens from human brai
 A.Reference number: A91364; MUID:86275260; PMID:3732516
 A.Accession: B24301
 A.Molecule type: protein
 A.Residues: 65-88, 'X', 90-98, 'X', 100 <GAU>
 R.Sommer, A.; Brewer, M.T.; Thompson, R.C.; Moscatelli, D.; Presta, M.; Rifkin, D.B.
 Biochem. Biophys. Res. Commun. 144, 543-550, 1987
 A.Title: A form of human basic fibroblast growth factor with an extended amino terminus
 A.Reference number: S42242; MUID:87213238; PMID:3579930
 A.Accession: S42242
 A.Status: preliminary
 A.Molecule type: mRNA
 A.Residues: 54-210 <SOM>

A.Cross-references: EMBL:M17599; NID:G183086; PIDN:AAA52534.1; PID:G183087
 R.Panoliato, M.W.; Horlick, R.A.; Springer, B.A.; Van Dyk, D.E.; Tobey, T.; Wetmore, I
 Biochim. Biophys. Res. Commun. 133, 10229-10248, 1994
 A.Title: Multivalent ligand-receptor binding interactions in the fibroblast growth facto
 A.Reference number: A55784; MUID:94347757; PMID:7520751
 A.Accession: B55784
 A.Molecule type: protein
 A.Residues: 54-71 <PAN>
 R.Watson, R.; Anthony, F.; Pickett, M.; Lambden, P.; Mason, G.M.; Thomas, E.J.
 Biochem. Biophys. Res. Commun. 187, 1227-1231, 1992
 A.Title: Reverse transcription with nested polymerase chain reaction shows expression of
 lentiv.
 A.Reference number: I52267; MUID:93038590; PMID:1417798
 A.Accession: I52267
 A.Status: preliminary; translated from GB/EMBL/DBJ
 A.Molecule type: mRNA
 A.Residues: 95-182 <RES>
 A.Cross-references: GB:S47380; NID:G256535; PIDN:AMD13853.1; PID:G4261553
 A.Experimental source: granulosa cells
 R.Party, V.; Bugler, B.; Amalric, P.; Prone, J.C.; Prats, H.
 FEBS Lett. 349, 23-28, 1994
 A.Title: Purification and characterization of the 210-amino acid recombinant basic fibro
 A.Reference number: S46253; MUID:94320639; PMID:8045296
 A.Accession: S46253
 A.Molecule type: protein
 A.Residues: 39-53; 65-88 <PAT>
 A.Note: recombinant gene expressed in Escherichia coli
 C.Genetics:
 A.Gene: GDB:FGF2; FGFB
 A.Cross-references: GDB:119910; OMIM:134920
 A.Map position: 4q25-4q27
 A.Start codon: CTG
 C.Superfamily: fibroblast growth factor
 C.Keywords: alternative initiators; angiogenesis; growth factor; heparin binding; mitoge
 F.1-210/Product: basic fibroblast growth factor, 22.5K form #status predicted <MA2>
 F.65-210/Product: basic fibroblast growth factor, 18K form #status predicted <MA2>
 F.82-86/Region: heparin binding #status predicted
 F.171-174/Region: heparin binding #status predicted
 Query Match 100.0%; Score 239; DB 2; Length 210;
 Best Local Similarity 100.0%; Pred. No. 4; 4e-24;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 1 YCKNGFPLRIHPDGRVGVREKSPHKLQLOAERGVSITKV 45
 88 YCKNGFPLRIHPDGRVGVREKSPHKLQLOAERGVSITKV 132
 Db
 RESULT 5
 A31674
 basic fibroblast growth factor precursor - rat
 N.Alternate names: bFGF
 C.Species: Rattus norvegicus (Norway rat)
 C.Date: 21-May-1990 #sequence revision 21-May-1990 #text_change 16-Jul-1999
 R.Shimasaki, S.; Emoto, N.; Koba, A.; Merado, M.; Shibaata, F.; Cookey, K.; Baird, A.;
 Biochem. Biophys. Res. Commun. 157, 256-263, 1988
 A.Title: Complementary DNA cloning and sequencing of rat ovarian basic fibroblast growth
 A.Reference number: A31674; MUID:89061721; PMID:3196337
 A.Accession: A31674
 A.Molecule type: mRNA
 A.Residues: 1-154 <SHT>
 A.Cross-references: GB:M22427; NID:G204285; PIDN:AAA4110.1; PID:G204286
 R.Kurokawa, T.; Sano, M.; Igatahshi, K.
 Nucleic Acids Res. 16, 5201, 1988
 A.Title: Nucleotide sequence of rat basic fibroblast growth factor cDNA.
 A.Reference number: S00876; MUID:88262516; PMID:3387229
 A.Accession: S00876
 A.Molecule type: mRNA
 A.Residues: 1-154 <KOR>
 A.Cross-references: EMBL:X07285; NID:G56203; PIDN:CAA30265.1; PID:G56204
 R.El-Husseini, A.E.D.; Paterson, J.A.; Myal, Y.; Shiu, R.P.C.
 Biochim. Biophys. Acta 1131, 314-316, 1992

A>Title: PCR detection of the rat brain basic fibroblast growth factor (bFGF) mRNA cont
 A:Reference number: S24309; MUID:92329546; PMID:1378302
 A:Accession: S24309
 A:Status: preliminary; translation not shown
 A:Molecule type: mRNA
 A:Residues: 35-154 <EBL>
 A:Cross-references: EMBL:X61697; NID:G56143; PIDN:CAA43863.1; PID:G56144
 A:Superfamily: fibroblast growth factor
 C:Keywords: growth factor
 F:10-154/Product: basic fibroblast growth factor #status predicted <SIG>

Query Match 99.6%; Score 238; DB 2; Length 154;
 Best Local Similarity 97.8%; Pred. No. 4,2e-24;

Matches 44; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 45
 |||||
 Db 32 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 76

RESULT 6

C37360 basic fibroblast growth factor - mouse

C:Species: Mus musculus (house mouse)

C:Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 16-Jul-1999

C:Accession: C37360

R:Hebert, J.M.; Basilico, C.; Goldfarb, M.; Haub, O.; Martin, G.R.

Dev. Biol. 138, 454-463, 1990

A>Title: Isolation of cDNAs encoding four mouse FGF family members and characterization

A:Reference number: A37360; MUID:90201563; PMID:2318343

A:Accession: C37360

A:Status: preliminary

A:Molecule type: mRNA

A:Residues: 1-154 <HEB>

A:Cross-references: GB:M30644; NID:G193296; PIDN:AAA7621.1; PID:G309239

C:Superfamily: fibroblast growth factor

Query Match 99.6%; Score 238; DB 2; Length 154;
 Best Local Similarity 97.8%; Pred. No. 4,2e-24;

Matches 44; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 45
 |||||
 Db 32 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 76

RESULT 7

A48834 basic fibroblast growth factor - chicken

C:Species: Gallus gallus (chicken)

C:Date: 01-Dec-1993 #sequence_revision 18-Nov-1994 #text_change 16-Jul-1999

C:Accession: A48834; S23636

R:Bojja, A.Z.; Meljers, C.; Zeller, R.

Dev. Biol. 157, 110-118, 1993

A>Title: Expression of alternatively spliced bFGF first coding exons and antisense mRNA

A:Reference number: A48834; MUID:93246053; PMID:7683281

A:Accession: A48834

A:Status: preliminary

A:Molecule type: nucleic acid

A:Residues: 1-189 <BOR>

A:Experimental source: embryo

A>Note: sequence extracted from NCBI backbone (NCBIN:131000, NCBI:131001)

R:Miranti, E.; Gruenbaum, Y.; Shohat, H.; Ziv, T.

Development 109, 387-393, 1990

A>Title: Fibroblast growth factor during mesoderm induction in the early chick embryo.

A:Reference number: S23636; MUID:90382254; PMID:2401202

A:Accession: S23636

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 95-128 <MT>

A:Cross-references: EMBL:X56804; NID:G62855; PIDN:CAA40139.1; PID:G62856

C:Superfamily: fibroblast growth factor

Query Match 97.1%; Score 232; DB 2; Length 189;
 Best Local Similarity 97.8%; Pred. No. 3,3e-23;

Matches 44; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 45
 |||||
 Db 67 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 111

RESULT 8

S31622 basic fibroblast growth factor - short-tailed opossum (Monodelphis domestica) (fragment)

C:Species: Monodelphis domestica

C:Date: 20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change 12-Apr-1995

C:Accession: S31622

R:Kusewit, D.F.; Sabourin, C.L.K.; Budge, C.L.; Ley, R.D.

submitted to the EMBL Data Library, September 1992

A:Description: Characterization of cDNA encoding basic fibroblast growth factor of the m

A:Reference number: S31622

A:Accession: S31622

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 1-164 <KUS>

A:Cross-references: EMBL:Z15154

C:Superfamily: fibroblast growth factor

Query Match 96.7%; Score 231; DB 2; Length 164;
 Best Local Similarity 95.6%; Pred. No. 3,9e-23;

Matches 43; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 45
 |||||
 Db 42 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 86

RESULT 9

A40117 basic fibroblast growth factor - African clawed frog

C:Species: Xenopus laevis (African clawed frog)

C:Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999

C:Accession: A40117; A29618

R:Kimmelman, D.; Abraham, J.A.; Haaparanta, T.; Pallas, T.M.; Kirschner, M.W.

Science 242, 1053-1056, 1988

A>Title: The presence of fibroblast growth factor in the frog egg: its role as a natural

A:Reference number: A40117; MUID:89058621; PMID:3194757

A:Accession: A40117

A:Status: preliminary

A:Molecule type: mRNA

A:Residues: 1-155 <KIM>

A:Cross-references: GB:M18067; NID:G214177; PIDN:AAA49726.1; PID:G214178; GB:M21092

R:Kimmelman, D.; Kirschner, M.

Cell 51, 869-877, 1987

A>Title: Synergistic induction of mesoderm by FGF and TGF-beta and the identification of

A:Reference number: A29618; MUID:88052890; PMID:3479265

A:Accession: A29618

A:Molecule type: mRNA

A:Residues: 95-110,112-155 <KID>

C:Superfamily: fibroblast growth factor

C:Keywords: growth factor

Query Match 83.3%; Score 199; DB 1; Length 155;
 Best Local Similarity 84.4%; Pred. No. 6,3e-19;

Matches 38; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

Qy 1 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 45
 |||||
 Db 33 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSIKGV 77

RESULT 10

A60721

acidic fibroblast growth factor - golden hamster


```

QY      1 YCKNGGFFLRHPDGRVDGVREKSDPHIKLQLQAEERGVSISK 43
          ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      30 YCSNGGHFLRLPDGKVDGTRDRSDQHILQLLSAEDVGEVYIK 72

```

RESULT 15

JH0476
 acidic fibroblast growth factor - pig (fragment)
 C:Species: Sus scrofa domestica (domestic pig)
 C:Date: 31-Mar-1992 #sequence _revision 31-Mar-1992 #text _revision 16-Jul-1999
 C:Accession: JH0476; S20072
 R:Schmidt, M., Sharma, H.S., Schott, R.J., Schaper, W.
 Biochem. Biophys. Res. Commun. 180, 853-859, 1991
 A:Title: Amplification and sequencing of mRNA encoding acidic fibroblast growth factor
 A:Reference number: JH0476; MUID:92062117; PMID:1719973
 A:Accession: JH0476
 A:Molecule type: mRNA
 A:Residues: 1-152 <SCH>
 A:Cross-references: EMBL:X60317; NID:g1873; PIDN:CAA42869..1; PID:g1874
 A:Experimental source: heart
 A:Note: The hydrophobic core residues are packed around the internal symmetry axis
 C:Comment: This protein belongs to the fibroblast growth factor family.
 C:Superfamily: fibroblast growth factor
 C:Keywords: growth factor; heparin binding
 F:122-28/Region: nuclear location signal
 F:133/Binding site: heparin (Lys) #status predicted

Query Match	61.9%;	Score 148;	DB 2;	Length 152;
Best Local Similarity	67.4%;	Pred. No. 3.6e-12;		
Matches 29; Conservative	3;	Mismatches 11;	Indels 0;	Gaps 0;

QY 1 YCKNGGFFLRHPDGRVADVREKSDPHIKLQLQAEERGVTSTK 43
||| ||| ||| ||| ::||| :||| ||| |||
Db 30 YCSNGGHFLRLPDPGTVDGTRSDQHQLQLSAESVGEVYIK 72

Search completed: January 30, 2004, 11:46:13
Job time : 19.3846 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:48 ; Search time 10.3846 Seconds
(without alignments)
203.782 Million cell updates/sec

Title: US-09-266-543-1
Perfect score: 239
Sequence: 1 YCKNGCFELRIHPDGRVDV.....PHIKLOAQERGVSIKGV 45

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues
Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	239	100.0	137	FGF2_RABIT	P48799 oryctolagus
2	239	100.0	155	FGF2_BOVIN	P03969 bos taurus
3	239	100.0	155	FGF2_HUMAN	P09038 homo sapien
4	239	100.0	155	FGF2_SHEEP	P20003 ovis aries
5	238	99.6	154	FGF2_MOUSE	P15655 mus musculus
6	238	99.6	154	FGF2_RAT	P13109 rattus norv
7	232	97.1	158	FGF2_CHICK	P48800 gallus gall
8	231	96.7	155	FGF2_MONDO	P12226 xenopus lae
9	199	83.3	155	FGF2_XENLA	P34604 mesocricetu
10	156	65.3	155	FGF1_MESAU	P10935 mus musculus
11	156	65.3	155	FGF1_MOUSE	P19596 gallus gall
12	153	64.0	155	FGF1_CHICK	P20002 sus scrofa
13	148	61.9	152	FGF1_PIG	P05230 homo sapien
14	148	61.9	155	FGF1_HUMAN	P03968 bos taurus
15	146	61.1	155	FGF1_BOVIN	P21658 mus musculus
16	103	43.1	208	FGF6_MOUSE	P10767 homo sapien
17	102	42.7	208	FGF6_HUMAN	P48804 gallus gall
18	96	40.2	194	FGF4_CHICK	P48803 bos taurus
19	95	39.7	206	FGF4_BOVIN	P48802 brychydanio
20	94.5	39.5	256	FGF3_BRARE	P15656 mus musculus
21	94	39.3	264	FGF5_MOUSE	P48807 rattus norv
22	94	39.3	266	FGF5_RAT	P11403 mus musculus
23	90	37.7	202	FGF4_MOUSE	P12034 homo sapien
24	90	37.7	268	FGF5_HUMAN	P08620 homo sapien
25	85	35.6	206	FGF4_HUMAN	P48801 gallus gall
26	84.5	35.4	220	FGF3_CHICK	P05524 mus musculus
27	83	34.7	245	FGF3_XENLA	P48805 xenopus lae
28	82	34.3	187	FGF4_XENLA	O92912 homo sapien
29	82	34.3	243	FGF3_HUMAN	O92915 homo sapien
30	80.5	33.7	247	FGF6_HUMAN	P70379 mus musculus
31	80.5	33.7	247	FGF6_MOUSE	P48806 xenopus lae
32	79	33.1	192	FGF3_XENLA	P11487 homo sapien
33	79	33.1	239	FGF3_HUMAN	

34	77	32.2	208	1	FGF4_HUMAN	O15520 homo sapien
35	77	32.2	215	1	FGF4_RAT	P70492 rattus norv
36	76.5	32.0	237	1	FGF3_XENLA	P36386 xenopus lae
37	75.5	31.6	170	1	FGF4_HUMAN	O9np95 homo sapien
38	73	31.4	211	1	FGF4_HUMAN	O9np95 homo sapien
39	73	30.5	209	1	FGF4_MOUSE	O35565 mus musculus
40	71.5	29.9	209	1	FGF9_XENLA	O91875 xenopus lae
41	69.5	29.1	208	1	FGF9_HUMAN	P31371 homo sapien
42	69.5	29.1	208	1	FGF9_MOUSE	P54130 mus musculus
43	69.5	29.1	208	1	FGF9_RAT	P36364 rattus norv
44	67.5	28.2	207	1	FGF4_HUMAN	O43320 homo sapien
45	67.5	28.2	207	1	FGF4_RAT	O54769 rattus norv

ALIGNMENTS

```

RESULT 1
ID FGF2_RABIT STANDARD; PRT; 137 AA.
AC P48759;
DT 01-FEB-1996 (Rel. 33, last sequence update)
DT 01-FEB-1996 (Rel. 33, last sequence update)
DT 28-FEB-2003 (Rel. 41, last annotation update)
DE Heparin-binding growth factor 2 (HBGF-2) (Basic fibroblast growth
DE factor) (BFGF) (Prostatiotin) (Fragment).
GN FGF2.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI TaxID=9986;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=New Zealand white; TISSUE=Smooth muscle;
RX MEDLINE=93343209; PubMed=8342599;
RA Winkler J.A., Friesel R., Alberts G.F., Janat M.F., Iiau G.;
RT "Elevated expression of basic fibroblast growth factor in an
RT immortalized rabbit smooth muscle cell line.";
RL Am. J. Pathol. 143:518-527(1993).
CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS
CC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN
CC VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
CC CONCENTRATION OF THESE 2 GROWTH FACTORS.
CC -1- SUBUNIT: Monomer.
CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
CC AFGF.
CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
CC -----
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CC -----
DR EMBL, L12034; AAA31248.1; -
DR PIR, I46711; I46711.
DR HSP, P09038; IBPF.
DR InterPro, IPR002348; IL1_HBGF.
DR Pfam, PF00167; FGF, 1.
DR PRINTS, PR00262; IL1HBGF.
DR PRODOM, PD000831; IL1_HBGF, 1.
DR SMART, SM00442; FGF, 1.
DR PROSITE, PS00247; HBGF_FGF, 1.
DR Growth factor; Mitogen; Angiogenesis; Heparin-binding.
FT BINDING 18 22 HEPARIN (POTENTIAL).
FT NON TER 107 110 HEPARIN (POTENTIAL).
SQ SEQUENCE 137 AA; 15418 MW; 0D9EE457B88BEC51 CRC64;
Query Match 100.0%; Score 239; DB 1; Length 137;
Best Local Similarity 100.0%; Pred. No. 3,3e-25;

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Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YCKNGFFLRHPDGRVGVREKSDPHIKLOLAERGVSISKV 45
 DB 24 YCKNGFFLRHPDGRVGVREKSDPHIKLOLAERGVSISKV 68

RESULT 2
 EGF2_BOVIN STANDARD; PRT; 155 AA.
 AC P03969;
 DT 23-OCT-1986 (Rel. 02, Created)
 DT 23-OCT-1986 (Rel. 02, Last sequence update)
 DT 28-EB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 2 precursor (HBGF-2) (Basic fibroblast growth factor) (BFGF) (Proteotropin) [Contains: Kidney-derived growth factor].
 DE FGF2 OR FGF-2.
 GN FGF2 OR FGF-2.
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovidae; Bovinae; Bos.
 OC NCBI_TaxID=9913;
 RX MEDLINE=86261806; PubMed=2425435;
 RA Abraham J.A., Mergia A., Whang J.L., Tumolo A., Friedman J., Hjerlild K.A., Gospodarowicz D., Fiddes J.C.;
 RT "Nucleotide sequence of a bovine clone encoding the angiogenic protein, basic fibroblast growth factor.";
 RL Science 233:545-548(1986).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=87217066; PubMed=3472745;
 RA Abraham J.A., Whang J.L., Tumolo A., Mergia A., Fiddes J.C.;
 RT "Human basic fibroblast growth factor; nucleotide sequence, genomic organization, and expression in mammalian cells.";
 RL Cold Spring Harb. Symp. Quant. Biol. 51:657-668(1986).
 RN [3]
 RP SEQUENCE OF 10-155.
 RX MEDLINE=86016731; PubMed=3863109;
 RA Esch F., Baird A., Ling N., Ueno N., Hill F., Denoroy L., Klepper R., Gospodarowicz D., Boehlen P., Guillemin R.;
 RT "Primary structure of bovine pituitary basic fibroblast growth factor (FGF) and comparison with the amino-terminal sequence of bovine brain acidic FGF.";
 RL Proc. Natl. Acad. Sci. U.S.A. 82:6507-6511(1985).
 RN [4]
 RP SEQUENCE OF 1-9.
 RX MEDLINE=86295737; PubMed=3741423;
 RA Ueno N., Baird A., Esch F., Boehlen P., Ling N., Guillemin R.;
 RT "Isolation of an amino terminal extended form of basic fibroblast growth factor.";
 RL Biochem. Biophys. Res. Commun. 138:580-588(1986).
 RN [5]
 RP SEQUENCE OF 25-41.
 RX MEDLINE=86095426; PubMed=4081126;
 RA Baird A., Esch F., Boehlen P., Ling N., Gospodarowicz D.;
 RT "Isolation and partial characterization of an endothelial cell growth factor from the bovine kidney: homology with basic fibroblast growth factor.";
 RL Regul. Pept. 12:201-213(1985).
 RN [6]
 RP SEQUENCE OF 21-40.
 RX MEDLINE=87119165; PubMed=3809608;
 RA Ueno N., Baird A., Esch F., Shimazaki S., Ling N., Guillemin R.;
 RT "Purification and partial characterization of a mitogenic factor from bovine liver: structural homology with basic fibroblast growth factor.";
 RL Regul. Pept. 16:135-145(1986).
 CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS

CC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN
 CC VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
 CC CONCENTRATION OF THESE 2 GROWTH FACTORS.
 CC -1- SUBUNIT: Monomer.
 CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
 CC AFGF.
 CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
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 CC -----
 CC DR EMBL; M13440; AAA30518.1; -.
 CC DR PIR; A24663; GKBOB.
 CC DR InterPro; IPR002348; IL1_HBGF.
 CC DR Pfam; PF00167; FGF; 1.
 CC DR PRINTS; PR00262; IL1HBGF.
 CC DR ProDom; PD000831; IL1_HBGF; 1.
 CC DR SMART; SM00442; FGF; 1.
 CC DR PROSITE; PS00247; HBGF_FGF; 1.
 CC KW Growth factor; Mitogen; Angiogenesis; Heparin-binding.
 CC PROPEP 1
 CC FT CHAIN 10 155 HEPARIN-BINDING GROWTH FACTOR 2.
 CC FT SITE 25 155 KIDNEY-DERIVED GROWTH FACTOR.
 CC FT SITE 46 48 CELL ATTACHMENT SITE (POTENTIAL).
 CC FT BINDING 88 90 CELL ATTACHMENT SITE (POTENTIAL).
 CC FT BINDING 27 31 HEPARIN (POTENTIAL).
 CC FT BINDING 116 119 HEPARIN (POTENTIAL).
 CC FT STRAND 30 34
 CC FT TURN 35 38
 CC FT STRAND 39 43
 CC FT TURN 45 46
 CC FT STRAND 49 52
 CC FT TURN 55 56
 CC FT TURN 58 60
 CC FT STRAND 62 68
 CC FT TURN 69 70
 CC FT STRAND 71 76
 CC FT TURN 77 80
 CC FT STRAND 81 85
 CC FT TURN 87 88
 CC FT STRAND 91 94
 CC FT HELIX 99 101
 CC FT STRAND 103 107
 CC FT TURN 109 110
 CC FT STRAND 113 117
 CC FT TURN 121 122
 CC FT STRAND 124 124
 CC FT TURN 127 127
 CC FT STRAND 129 130
 CC FT STRAND 133 133
 CC FT HELIX 136 138
 CC FT TURN 141 142
 CC FT HELIX 144 146
 CC FT STRAND 148 151
 CC SQ SEQUENCE 155 AA; 17250 MW; B86CE70FA6107129 CRC64;

Query Match 100.0%; Score 239; DB 1; Length 155;
 Best Local Similarity 100.0%; Pred. No. 3.8e-25;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YCKNGFFLRHPDGRVGVREKSDPHIKLOLAERGVSISKV 45
 DB 33 YCKNGFFLRHPDGRVGVREKSDPHIKLOLAERGVSISKV 77

RESULT 3
 FGF2_HUMAN STANDARD; PRT; 155 AA.

AC P09038;
 DT 01-NOV-1988 (Rel. 09, Created)
 DT 01-NOV-1988 (Rel. 09, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Heparin-binding growth factor 2 precursor (HBGF-2) (Basic fibroblast growth factor) (BFGF) (Procatroplin).
 GN FG2 OR FGF.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 OK NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=87053817; PubMed=3780670;
 RA Abraham J.A., Whang J.L., Tumolo A., Mergia A., Friedman J., Gospodarowicz D., Fiddes J.C.;
 RT "Human basic fibroblast growth factor: nucleotide sequence and genomic organization.";
 RL EMBO J. 5:2523-2528(1986).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=87217066; PubMed=3472745;
 RA Abraham J.A., Whang J.L., Tumolo A., Mergia A., Fiddes J.C.;
 RT "Human basic fibroblast growth factor: nucleotide sequence, genomic organization, and expression in mammalian cells.";
 RL Cold Spring Harb. Symp. Quant. Biol. 51:657-668(1986).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=87213238; PubMed=3579930;
 RA Sommer A., Brewer M.T., Thompson R.C., Moscatelli D., Presta M., Rifkin D.B.;
 RT "A form of human basic fibroblast growth factor with an extended amino terminus.";
 RL Biochem. Biophys. Res. Commun. 144:543-550(1987).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=87162468; PubMed=2435575;
 RA Kurikawa T., Sasada R., Iwane M., Igarashi K.;
 RT "Cloning and expression of cDNA encoding human basic fibroblast growth factor.";
 RL FEBS Lett. 213:189-194(1987).
 RN [5]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=89184522; PubMed=2538817;
 RA Prats H., Kagnad M., Prats A.C., Klagsbrun M., Lelias J.M., Lianzun P., Chalon P., Tauber J.P., Amalric F., Smith J.A., Caput D.;
 RT "High molecular mass forms of basic fibroblast growth factor are initiated by alternative CUG codons.";
 RL Proc. Natl. Acad. Sci. U.S.A. 86:1836-1840(1989).
 RN [6]
 RP SEQUENCE OF 10-35.
 RX MEDLINE=86275260; PubMed=3732516;
 RA Gautschi P., Frater-Schroeder M., Boehlen P.;
 RT "Partial molecular characterization of endothelial cell mitogens from human brain: acidic and basic fibroblast growth factors.";
 RL FEBS Lett. 204:203-207(1986).
 RN [7]
 RP SEQUENCE OF 10-39.
 RX MEDLINE=86186784; PubMed=3964259;
 RA Gimenez-Gallego G., Conn G., Hatcher V.B., Thomas K.A.;
 RT "Human brain-derived acidic and basic fibroblast growth factors: amino terminal sequences and specific mitogenic activities.";
 RL Biochem. Biophys. Res. Commun. 135:541-548(1986).
 RN [8]
 RP SEQUENCE OF 2-22.
 RX MEDLINE=87156686; PubMed=2435284;
 RA Story M.T., Bach F., Shimasaki S., Saase J., Jacobs S.C., Lawson R.K.;
 RT "Amino-terminal sequence of a large form of basic fibroblast growth factor isolated from human benign prostatic hyperplastic tissue.";
 RL Biochem. Biophys. Res. Commun. 142:702-709(1987).
 RN [9]
 RP X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS).

RX MEDLINE=92121151; PubMed=1769963;
 RA Ago H., Kitagawa Y., Fujishima A., Matsura Y., Katsube Y.;
 RT "Crystal structure of basic fibroblast growth factor at 1.6-A resolution.";
 RL J. Biochem. 110:360-363(1991).
 RN [10]
 RP X-RAY CRYSTALLOGRAPHY (2.2 ANGSTROMS).
 RX MEDLINE=91195367; PubMed=1707542;
 RA Eriksson A.E., Cousens L.S., Weaver L.H., Matthews B.W.;
 RT "Three-dimensional structure of human basic fibroblast growth factor.";
 RL Proc. Natl. Acad. Sci. U.S.A. 88:3441-3445(1991).
 RN [11]
 RP X-RAY CRYSTALLOGRAPHY (1.8 ANGSTROMS).
 RX MEDLINE=91195368; PubMed=1849658;
 RA Zhang J., Cousens L.S., Barr P.J., Sprang S.R.;
 RT "Three-dimensional structure of human basic fibroblast growth factor: a structural homolog of interleukin 1 beta.";
 RL Proc. Natl. Acad. Sci. U.S.A. 88:3446-3451(1991).
 RN [12]
 RP X-RAY CRYSTALLOGRAPHY (2.8 ANGSTROMS).
 RX MEDLINE=91095983; PubMed=1702556;
 RA Zhu X., Komiyama H., Chirino A., Faham S., Fox G.M., Arakawa T., Hsu B.T., Rees D.C.;
 RT "Three-dimensional structures of acidic and basic fibroblast growth factors.";
 RL Science 251:90-93(1991).
 RN [13]
 RP X-RAY CRYSTALLOGRAPHY (1.6 ANGSTROMS).
 RX MEDLINE=94004464; PubMed=7691311;
 RA Eriksson A.E., Cousens L.S., Matthews B.W.;
 RT "Refinement of the structure of human basic fibroblast growth factor at 1.6-A resolution and analysis of presumed heparin binding sites by selenium substitution.";
 RL Protein Sci. 2:1274-1284(1993).
 RN [14]
 RP STRUCTURE BY NMR.
 RX MEDLINE=97040521; PubMed=8885834;
 RA Moy F.J., Seddon A.P., Boehlen P., Powers R.;
 RT "High-resolution solution structure of basic fibroblast growth factor determined by multidimensional heteronuclear magnetic resonance spectroscopy.";
 RL Biochemistry 35:13552-13561(1996).
 CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
 CC -1- SUBUNIT: Monomer.
 CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES AFGF.
 CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
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 CC EMBL: M17599; AAA52534.1; ALT_INIT.
 CC EMBL: X04431; CA28027.1;
 CC EMBL: X04432; CA28028.1;
 CC EMBL: X04433; CA28029.1;
 CC EMBL: M27968; AAA52448.1;
 CC EMBL: J04513; AAA52533.1; ALT_INIT.
 CC PIR: A32398; A32398.
 CC PDB: 2RGF; 15-APR-92.
 CC PDB: 4FGF; 15-JUL-93.
 CC PDB: 1FGA; 15-JUL-93.
 CC PDB: 1BFB; 03-APR-96.
 CC PDB: 1BFC; 03-APR-96.
 CC PDB: 1BFF; 16-JUN-97.

DR PDB; 1BFG; 31-JAN-94.
 DR PDB; 2BFH; 30-APR-94.
 DR PDB; 1BLA; 08-NOV-96.
 DR PDB; 1BLD; 08-NOV-96.
 DR PDB; 1BAS; 31-OCT-93.
 DR PDB; 1CVS; 28-JAN-00.
 DR PDB; 1EV2; 31-MAY-00.
 DR PDB; 1FQ9; 27-SEP-00.
 DR PDB; 1I14; 20-JUN-01.
 DR PDB; 1I1L; 20-JUN-01.
 DR Genew; HGNC:3676; FGF2.
 DR MIM; 134920; -.
 DR GO; GO:0005737; C:cytoplasm; TAS.
 DR GO; GO:0005615; C:extracellular space; TAS.
 DR GO; GO:0000187; P:activation of MAPK; TAS.
 DR GO; GO:0006935; P:chemotaxis; TAS.
 DR GO; GO:0007397; P:histogenesis and organogenesis; TAS.
 DR GO; GO:0007399; P:neurogenesis; TAS.
 DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
 DR GO; GO:0007265; P:RAS protein signal transduction; TAS.
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR ProDom; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 DR Growth factor; Mitogen; Angiogenesis; Heparin-binding;
 DR 3D-structure.
 KW PROPEP 1 9
 FT CHAIN 10 155
 FT SITE 46 48
 FT SITE 88 90
 FT BINDING 27 31
 FT BINDING 116 119
 FT STRAND 30 34
 FT STRAND 35 38
 FT STRAND 39 43
 FT STRAND 45 46
 FT STRAND 49 52
 FT STRAND 55 56
 FT TURN 58 60
 FT STRAND 62 66
 FT STRAND 69 70
 FT STRAND 71 76
 FT STRAND 77 80
 FT STRAND 81 85
 FT STRAND 87 88
 FT STRAND 91 94
 FT STRAND 99 101
 FT STRAND 103 107
 FT TURN 109 110
 FT STRAND 113 117
 FT TURN 121 122

Query Match
 Best Local Similarity 100.0%; Score 239; DB 1; Length 155;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHPDGRVGVREKSDPHIKLQLAERGVSVSIKGV 45
 DB 33 YCKNGFFLRHPDGRVGVREKSDPHIKLQLAERGVSVSIKGV 77

RESULT 4
 FGF2_SHEEP STANDARD; PRT; 155 AA.
 ID_FGF2_SHEEP
 AC P20003;
 DT 01-FEB-1991 (Rel. 17, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 2 precursor (HBGF-2) (Basic fibroblast growth factor) (BFGF) (Prostatropin).
 GN FGF2 OR FGF-2.

OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Caprinae; Ovis.
 OX NCBI_TaxId=9940;
 RN (1)
 RP SEQUENCE FROM N.A.
 RA Sutton R., Ward W.G., Raphael K.A., Cam G.R.;
 RL Submitted (SEP-1994) to the EMBL/Genbank/DBJ databases.
 RP SEQUENCE OF 9-155.
 RX MEDLINE=88055577; PubMed=3678486;
 RA Simpson R.J., Moritz R.L., Lloyd C.J., Fabri L.J., Nice E.C.,
 RA Rubira M.R., Burgess A.W.;
 RT "Primary structure of ovine pituitary basic fibroblast growth factor";
 RL FEBS Lett. 224:128-132(1987).
 CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS
 CC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN
 CC VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
 CC CONCENTRATION OF THESE 2 GROWTH FACTORS.
 CC -1- SUBUNIT: Monomer.
 CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
 CC AFGP.
 CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
 CC -----
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 CC or send an email to license@sib-sib.ch).
 CC -----
 CC EMBL; L36136; AAA31519.1; -.
 DR HSSP; P09038; 1BFG.
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR ProDom; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 DR Growth factor; Mitogen; Angiogenesis; Heparin-binding.
 KW PROPEP 1 9
 FT CHAIN 10 155
 FT SITE 46 48
 FT SITE 87 90
 FT BINDING 27 31
 FT BINDING 116 119
 SQ SEQUENCE 155 AA; 17280 MW; B5P2364BA610606D CRC64;

Query Match
 Best Local Similarity 100.0%; Score 239; DB 1; Length 155;
 Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHPDGRVGVREKSDPHIKLQLAERGVSVSIKGV 45
 DB 33 YCKNGFFLRHPDGRVGVREKSDPHIKLQLAERGVSVSIKGV 77

RESULT 5
 FGF2_MOUSE STANDARD; PRT; 154 AA.
 ID_FGF2_MOUSE
 AC P15655;
 DT 01-APR-1990 (Rel. 14, Created)
 DT 01-APR-1990 (Rel. 14, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 2 precursor (HBGF-2) (Basic fibroblast growth factor) (BFGF) (Prostatropin).
 GN FGF2 OR FGF-2.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OX NCBI_Taxid=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=90201563; PubMed=2318343;
 RA Hebert J.M., Basilico C., Goldfarb M., Haub O., Martin G.R.;
 RT "Isolation of cDNAs encoding four mouse FGF family members and
 characterisation of their expression patterns during embryogenesis.";
 RL Dev. Biol. 138:454-463(1990).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J, A/J, and NOD/LtJ; TISSUE=Spleen;
 RA Ma R.Z., Teuscher C.;
 RT Submitted (May-1998) to the EMBL/Genbank/DBJ databases.
 CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS
 IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN
 VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
 CONCENTRATION OF THESE 2 GROWTH FACTORS.
 CC -1- SUBUNIT: Monomer.
 CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
 AFGF.
 CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
 CC -----
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 or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL: M30644; AAA37621.1; -
 DR EMBL: AF065903; AAC17503.1; -
 DR EMBL: AF065904; AAC17504.1; -
 DR EMBL: AF065905; AAC17505.1; -
 DR F1R: C37360; C37360.
 DR HSSP: P09038; 1BPF.
 DR MGD: MG1:95516; Fgf2.
 DR GO: GO:0005615; C:extracellular space; IDA.
 DR GO: GO:0045597; P:positive regulation of cell differentiation; IDA.
 DR InterPro: IPR002348; IL1_HBGF.
 DR Pfam: PF00167; FGF_1.
 DR PRINTS: PR00262; IL1HBGF.
 DR ProDom: PD000831; IL1_HBGF; 1.
 DR SMART: SM00442; FGF; 1.
 DR PROSITE: PS00247; HBGF_FGF; 1.
 KW Growth factor; Mitogen; Angiogenesis; Heparin-binding.
 FT PROSEP 1 9
 FT CHAIN 10 154 HEPARIN-BINDING GROWTH FACTOR 2.
 FT BINDING 26 30 HEPARIN (POTENTIAL).
 FT BINDING 115 118 HEPARIN (POTENTIAL).
 SQ SEQUENCE 154 AA; 17153 MW; 689677416274388 CRC64;
 Query Match 99.6%; Score 238; DB 1; Length 154;
 Best Local Similarity 97.8%; Pred. No. 5.2e-25;
 Matches 44; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 QY 1 YCKNGGFILRIHPDGVGVREKSDPHITQLQAEKRGVSTKGV 45
 DB 32 YCKNGGFILRIHPDGVGVREKSDPHITQLQAEKRGVSTKGV 76
 RESULT 6
 FGF2_RAT
 ID FGF2_RAT STANDARD; PRT; 154 AA.
 AC P13109;
 DT 01-JAN-1990 (Rel. 13, Created)
 DT 01-JAN-1990 (Rel. 13, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 2 precursor (HBGF-2) (Basic fibroblast
 growth factor) (BFGF) (Procatropin).
 GN FGF2 OR FGF-2.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_Taxid=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Sprague-Dawley; TISSUE=Ovary;
 RX MEDLINE=89061721; PubMed=3196337;
 RA Shimazaki S., Emoto N., Koba A., Mercado M., Shibata F.,
 RA Cooksey K., Baird A., Ling N.;
 RT "Complementary DNA cloning and sequencing of rat ovarian basic
 fibroblast growth factor and tissue distribution study of its mRNA.";
 RL Biochem. Biophys. Res. Commun. 157:256-263(1988).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain;
 RX MEDLINE=88262516; PubMed=3387229;
 RA Kurokawa T., Sano M., Igarashi K.;
 RT "Nucleotide sequence of rat basic fibroblast growth factor cDNA.";
 RL Nucleic Acids Res. 16:5201-5201(1988).
 RN [3]
 RP SEQUENCE OF 1-28 FROM N.A.
 RC STRAIN=Sprague-Dawley; TISSUE=Nestis;
 RX MEDLINE=97200905; PubMed=9048734;
 RA Pasamartini K.B.S., Jin Y., Cattini P.A.;
 RT "Cloning of the rat fibroblast growth factor-2 promoter region and
 its response to mitogenic stimuli in glioma C6 cells.";
 RL J. Neurochem. 68:98-908(1997).
 RN [4]
 RP SEQUENCE OF 35-154 FROM N.A.
 RC STRAIN=Sprague-Dawley; TISSUE=Brain;
 RX MEDLINE=92329546; PubMed=1378302;
 RA El-Husseini A.E.-D., Paterson J.A., Myal Y., Shu R.P.C.;
 RT "PCR detection of the rat brain basic fibroblast growth factor (bFGF)
 mRNA containing a unique 3' untranslated region.";
 RL Biochim. Biophys. Acta 1131:314-316(1992).
 CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS
 IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN
 VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
 CONCENTRATION OF THESE 2 GROWTH FACTORS.
 CC -1- SUBUNIT: Monomer.
 CC -1- TISSUE SPECIFICITY: FOUND IN ALL THE TISSUES EXAMINED.
 CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES
 AFGF.
 CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
 CC -----
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 or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL: M22427; AAA41210.1; -
 DR EMBL: X07285; CA330265.1; -
 DR EMBL: U78079; AAC53225.1; -
 DR EMBL: X61697; CAA43863.1; -
 DR F1R: A31674; A31674.
 DR HSSP: P09038; 1BPF.
 DR InterPro: IPR002348; IL1_HBGF.
 DR Pfam: PF00167; FGF; 1.
 DR PRINTS: PR00262; IL1HBGF.
 DR ProDom: PD000831; IL1_HBGF; 1.
 DR SMART: SM00442; FGF; 1.
 DR PROSITE: PS00247; HBGF_FGF; 1.
 KW Growth factor; Mitogen; Angiogenesis; Heparin-binding.
 FT PROSEP 1 9
 FT CHAIN 10 154 HEPARIN-BINDING GROWTH FACTOR 2.
 FT BINDING 26 30 HEPARIN (POTENTIAL).
 FT BINDING 115 118 HEPARIN (POTENTIAL).
 SQ SEQUENCE 154 AA; 17139 MW; 1A0F14FF423D8403 CRC64;
 Query Match 99.6%; Score 238; DB 1; Length 154;
 Best Local Similarity 97.8%; Pred. No. 5.2e-25;

Matches 44; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YCKNGGFLLRHPDGRVDGVREKSDPHIKQLQAEERGVSVISKV 45
 |||||
 Db 32 YCKNGGFLLRHPDGRVDGVREKSDPHIKQLQAEERGVSVISKV 76
 |||||

RESULT 7

FGF2_CHICK STANDARD; PRT; 158 AA.

DT 01-FEB-1996 (Rel. 33, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 2 precursor (HBGF-2) (Basic fibroblast growth factor) (BFGF).
 GN FGF2 OR FGF-2 (BFGF).
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae; Gallus.
 OC NCBI_TaxID=9031;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=93246053; PubMed=7683281;
 RA Borja A.Z., Zeller R., Meijers C.;
 RT "Expression of alternatively spliced bFGF first coding exons and antisense mRNAs during chicken embryogenesis."
 RL Dev. Biol. 157:110-118(1993).

CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
 CC -1- SUBUNIT: Monomer.
 CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES AFGF.

CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.

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CC EMBL; M95707; AAA48617.1; -.
 DR HSSP; P09038; 1BFF.
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR PRODOM; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF_I.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 DR Growth factor; Mitogen; Angiogenesis; Heparin-binding.
 KW PROPEP 12 BY SIMILARITY.
 FT CHAIN 13 158 HEPARIN-BINDING GROWTH FACTOR 2.
 FT BINDING 30 34 HEPARIN (POTENTIAL).
 FT BINDING 119 122 HEPARIN (POTENTIAL).
 SQ SEQUENCE 158 AA; 17374 MW; 7B69B684C17F1816 CRC64;

Query Match 97.1%; Score 232; DB 1; Length 158;
 Best Local Similarity 97.8%; Pred. No. 3.5e-24;
 Matches 44; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YCKNGGFLLRHPDGRVDGVREKSDPHIKQLQAEERGVSVISKV 45
 |||||
 Db 36 YCKNGGFLLRHPDGRVDGVREKSDPHIKQLQAEERGVSVISKV 80
 |||||

RESULT 8
 FGF2_MONDO STANDARD; PRT; 156 AA.

AC P48798;
 DT 01-FEB-1996 (Rel. 33, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 2 precursor (HBGF-2) (Basic fibroblast growth factor) (BFGF) (Prostatropin).
 GN FGF2.
 OS Monodelphis domestica (Short-tailed grey opossum).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Metatheria; Didelphimorphia; Didelphidae; Monodelphie.
 OC NCBI_TaxID=13616;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX TISSUE=Eye;
 RX MEDLINE=94296558; PubMed=8024698;
 RA Kusewit D.F., Sabourin C.L.K., Sheburn T.E., Ley R.D.;
 RT "Characterization of cDNA encoding basic fibroblast growth factor of the marsupial Monodelphis domestica."
 RL DNA Cell Biol. 13:549-554(1994).

CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND CONCENTRATION OF THESE 2 GROWTH FACTORS.
 CC -1- SUBUNIT: Monomer.
 CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN MORE STRONGLY THAN DOES AFGF.

CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.

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CC EMBL; Z15154; CAAT8854.1; ALT_INIT.
 DR HSSP; P09038; 1BFF.
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR PRODOM; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 KW Growth factor; Mitogen; Angiogenesis; Heparin-binding.
 KW PROPEP 9 BY SIMILARITY.
 FT CHAIN 10 156 HEPARIN-BINDING GROWTH FACTOR 2.
 FT BINDING 28 32 HEPARIN (POTENTIAL).
 FT BINDING 117 120 HEPARIN (POTENTIAL).
 SQ SEQUENCE 156 AA; 17303 MW; 7E655FCC49BF1209 CRC64;

Query Match 96.7%; Score 231; DB 1; Length 156;
 Best Local Similarity 95.6%; Pred. No. 4.7e-24;
 Matches 43; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Oy 1 YCKNGGFLLRHPDGRVDGVREKSDPHIKQLQAEERGVSVISKV 45
 |||||
 Db 34 YCKNGGFLLRHPDGRVDGVREKSDPHIKQLQAEERGVSVISKV 78
 |||||

RESULT 9
 FGF2_XENLA STANDARD; PRT; 155 AA.

AC P12226;
 DT 01-OCT-1989 (Rel. 12, Created)
 DT 01-JAN-1990 (Rel. 13, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 2 precursor (HBGF-2) (Basic fibroblast growth factor) (BFGF).
 GN FGF2 OR FGF-2.
 OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae;

OC Xenopodinae; Xenopus.
 OX NCBI_TaxID=8355;
 [1]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=89058621; PubMed=3194757;
 RA Kimehan D., Adiyaham J., Haaparanta T., Pajet T., Kirschner M.;
 RT "The presence of fibroblast growth factor in the frog egg: its role
 as a natural mesoderm inducer.";
 RL Science 242:1053-1056 (1988).
 RN [2]
 RP SEQUENCE OF 95-155 FROM N.A.
 RX MEDLINE=89052890; PubMed=3479265;
 RA Kimehan D., Kirschner M.;
 RT "Synergistic induction of mesoderm by FGF and TGF-beta and the
 RT identification of an mRNA coding for FGF in the early Xenopus
 RT embryo.";
 RL Cell 51:869-877 (1987).
 CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
 CC -----
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 CC or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL, M18067; AAA49726.1; -
 CC PIR, A40117; A40117.
 DR HSSP; P09038; 1BF.
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR ProDom; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 DR Growth factor; MitoGen; Angiogenesis; Heparin-binding.
 KW PROPEP 1 9
 FT CHAIN 10 155 HEPARIN-BINDING GROWTH FACTOR 2.
 FT BINDING 27 31 HEPARIN (POTENTIAL).
 FT BINDING 116 119 HEPARIN (POTENTIAL).
 FT CONFLICT 111 111 MISSING (IN REF. 2).
 FT SEQUENCE 155 AA; 17241 MW; 036735C8063142FD CRC64;
 SQ
 Query Match 83.3%; Score 199; DB 1; Length 155;
 Best Local Similarity 84.4%; Pred. No. 9.8e-20;
 Matches 38; Conservative 3; Mismatches 4; Indels 0; Gaps 0;
 QY 1 YCKNGGFLLRHPDGRVDSREKSDPHIKLQQAERGVSIGK 45
 DB 33 YCKNGGFLLRHPDGRVDSREKSDPHIKLQQAERGVSIGK 77
 RESULT 10
 ID FGF1_MESAU STANDARD; PRT; 155 AA.
 AC P34004;
 DT 01-FEB-1994 (Rel. 28, Created)
 DT 01-FEB-1994 (Rel. 28, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 1 precursor (HBGF-1) (Acidic fibroblast
 DE growth factor) (AFGF).
 GN FGF1 OR FGF-1.
 OS Mesocricetus auratus (Golden hamster).
 OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 OC Mesocricetus.
 OX NCBI_TaxID=10036;
 OX [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=90270291; PubMed=1693366;
 RA Hall J.A., Harris M.A., Malark M., Mansson P.E., Zhou H., Harris S.E.;
 RT "Characterization of the hamster DDT-1 cell afGF/HBGF-1 gene and cDNA

RT and its modulation by steroids.";
 RL J. Cell. Biochem. 43:17-26 (1990).
 CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS
 CC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN
 CC VITRO. THERE ARE DIFFERENCES IN THE TISSUE DISTRIBUTION AND
 CC CONCENTRATION OF THESE 2 GROWTH FACTORS.
 CC -1- SUBUNIT: Monomer.
 CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN, ALTHOUGH LESS STRONGLY
 CC THAN DOES BFGF.
 CC -----
 CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
 CC -----
 CC PIR; A60721; A60721.
 DR HSSP; P05230; 1RML.
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR ProDom; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 DR Growth factor; MitoGen; Angiogenesis; Heparin-binding.
 KW PROPEP 1 15
 FT CHAIN 16 155 HEPARIN-BINDING GROWTH FACTOR 1.
 FT BINDING 24 28 HEPARIN (POTENTIAL).
 FT BINDING 113 116 HEPARIN (POTENTIAL).
 FT SEQUENCE 155 AA; 17403 MW; 41B5EC70B412C5 CRC64;
 SQ
 Query Match 65.3%; Score 156; DB 1; Length 155;
 Best Local Similarity 68.2%; Pred. No. 6.3e-14;
 Matches 30; Conservative 3; Mismatches 11; Indels 0; Gaps 0;
 QY 1 YCKNGGFLLRHPDGRVDSREKSDPHIKLQQAERGVSIGK 44
 DB 30 YCKNGGFLLRHPDGRVDSREKSDPHIKLQQAERGVSIGK 73
 RESULT 11
 ID FGF1_MOUSE STANDARD; PRT; 155 AA.
 AC P10935;
 DT 01-JUL-1989 (Rel. 11, Created)
 DT 01-JUL-1989 (Rel. 11, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 1 precursor (HBGF-1) (Acidic fibroblast
 DE growth factor) (AFGF).
 GN FGF1 OR FGF-1 OR FGFA.
 OS Mus musculus (Mouse), and
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 OX NCBI_TaxID=10090, 10116;
 OX [1]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Rat;
 RX MEDLINE=89240051; PubMed=2470029;
 RA Goodrich S., Yan G.C., Bahrenburg K., Mansson P.E.;
 RT "The nucleotide sequence of rat heparin binding growth factor 1
 RT (HBGF-1)."
 RL Nucleic Acids Res. 17:2867-2867 (1989).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Mouse;
 RX MEDLINE=90201563; PubMed=2318343;
 RA Hebert J.M., Basilio C., Goldfarb M., Haub O., Martin G.R.;
 RT "Isolation of cDNAs encoding four mouse FGF family members and
 RT characterization of their expression patterns during embryogenesis.";
 RL Dev. Biol. 138:454-463 (1990).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC SPECIES=Mouse;
 RX MEDLINE=97128312; PubMed=8972905;
 RA Madlat F., Hackshaw K.V., Chiu I.M.;
 RT "Cloning and characterization of the mouse Fgf-1 gene.";
 RL Gene 179:231-236 (1996).
 RN [4]

OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 OX NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Heart;
 RX MEDLINE=92062117; PubMed=1719973;
 RA Schmidt W., Sharma H.S., Schott R.J., Schaper W.;
 RT "Amplification and sequencing of mRNA encoding acidic fibroblast
 growth factor (afgf) from porcine heart."
 RL Biochem. Biophys. Res. Commun. 180:853-859 (1991).
 RN [2]
 RP SEQUENCE OF 22-41.
 RX MEDLINE=89231704; PubMed=2714282;
 RA Quinkler W., Maasberg M., Bernotat-Danielowski S., Lueche N.,
 RA Sharma H.S., Schaper W.;
 RT "Isolation of heparin-binding growth factors from bovine, porcine and
 canine hearts."
 RL Eur. J. Biochem. 181:67-73 (1989).
 CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS
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 CONCENTRATION OF THESE 2 GROWTH FACTORS.
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 CC -1- MISCELLANEOUS: THIS PROTEIN BINDS HEPARIN, ALTHOUGH LESS STRONGLY
 THAN DOES BFGF.
 CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
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 or send an email to license@isb-sib.ch).
 CC
 CC EMBL: X60317; CAA42869.1; -
 DR PIR: JH0476; JH0476.
 DR HSSP: P05230; 2AXM.
 DR InterPro: IPR002348; IL1_HBGF.
 DR Pfam: PR00167; FGF_1.
 DR PRINTS: PR00262; IL1HBGF.
 DR ProDom: PD000831; IL1_HBGF; 1.
 DR SMART: SM00442; FGF; 1.
 DR PROSITE: PS00247; HBGF_FGF; 1.
 KW Growth factor; Mitogen; Angiogenesis; Heparin-binding.
 FT PROPEP 1 15
 FT CHAIN 16 >152 HEPARIN-BINDING GROWTH FACTOR 1.
 FT CHAIN 22 >152 ENDOTHELIAL CELL GROWTH FACTOR ALPHA.
 FT BINDING 24 28 HEPARIN (POTENTIAL).
 FT BINDING 113 116 HEPARIN (POTENTIAL).
 FT CONFLICT 31 31 C -> S (IN REF. 2).
 FT CONFLICT 39 39 R -> Y (IN REF. 2).
 FT NON_TER 152 152
 SQ SEQUENCE 152 AA; 17103 MW; AE853B0A92F9ABF4 CRC64;

Query Match 61.9%; Score 148; DB 1; Length 152;
 Best Local Similarity 67.4%; Pred. No. 7.5e-13;
 Matches 29; Conservative 3; Mismatches 11; Indels 0; Gaps 0;

QY 1 YKNGGFFLRHPDGVKREKSDPHILQLQAEERGVVSIK 43
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RESULT 14
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 AC P05230; P07502;
 DT 13-AUG-1987 (Rel. 05, Created)
 DT 13-AUG-1987 (Rel. 05, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Heparin-binding factor 1 precursor (HBGF-1) (Acidic fibroblast
 growth factor) (AFGF) (Beta-endothelial cell growth factor) (ECGF-

DE beta).
 GN FGF1 OR FGFA.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
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 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=86261805; PubMed=3523756;
 RA Jaye M., Howk R., Burgess W., Ricca G.A., Chiu I.-M., Ravera M.W.,
 RA O'Brien S.J., Modi W.S., Maciag T., Dronan W.N.;
 RT "Human endothelial cell growth factor: cloning, nucleotide sequence,
 RT and chromosome localization."
 RL Science 233:541-545 (1986).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain stem;
 RX MEDLINE=89343957; PubMed=2474753;
 RA Wang W.P., Lehtoma K., Varban M.L., Krishnan I., Chiu I.M.;
 RT "Cloning of the gene coding for human class I heparin-binding growth
 RT factor and its expression in fetal tissues."
 RL Mol. Cell. Biol. 9:2387-2395 (1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Brain stem;
 RX MEDLINE=90265618; PubMed=1693186;
 RA Chiu I.M., Wang W.P., Lehtoma K.;
 RT "Alternative splicing generates two forms of mRNA coding for human
 RT heparin-binding growth factor 1."
 RL Oncogene 5:755-762 (1990).
 RN [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=90073637; PubMed=2590193;
 RA Merzia A., Tischer E., Graves D., Tunolo A., Miller J.,
 RA Gospodarowicz D., Abraham J.A., Shipley G.D., Fiddes J.C.;
 RT "Structural analysis of the gene for human acidic fibroblast growth
 RT factor."
 RL Biochem. Biophys. Res. Commun. 164:1121-1129 (1989).
 RN [5]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=92019619; PubMed=1717925;
 RA Wang W.P., Quick D., Balcerzak S.P., Needleman S.W., Chiu I.M.;
 RT "Cloning and sequence analysis of the human acidic fibroblast growth
 RT factor gene and its preservation in leukemia patients."
 RL Oncogene 6:1521-1529 (1991).
 RN [6]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=92202857; PubMed=1372643;
 RA Li Y.L., Kha H., Golden J.A., Mighelielsen A.A.J., Goetzl E.J.,
 RA Turk E.J.;
 RT "An acidic fibroblast growth factor protein generated by alternate
 RT splicing acts like an antagonist."
 RL J. Exp. Med. 175:1073-1080 (1992).
 RN [7]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Liver;
 RX MEDLINE=92286257; PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shennan C.M., Schuler G.D.,
 RA Altshul S.F., Zeeberg B., Buettow K.H., Scheffer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan K.C., Hale S., Garcia A.M., Gay L.J., Hultk S.W.,
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.J., Umed T.B., Toshimiki S., Carninci P., Frange C.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullaby S.J.,
 RA Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hultk S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kettelman M., Madan A., Rodriguez S., Sanchez A.,
 RA Whiting M., Nadeau A., Young A.C., Shevchenko Y., Boulford G.G.,
 RA Bialesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmitt J., Myers R.M.,
 RA Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smalins D.E.,

RA Schnerch A., Schein J.E., Jones S.J.M., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length
 human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 RN [8]
 RN SEQUENCE OF 1-154 FROM N.A.
 RX MEDLINE=94069734; PubMed=7504343;
 RA Zhao X.M., Yeoh T.K., Hiebert M., Frist W.H., Miller G.G.;
 RT "The expression of acidic fibroblast growth factor (heparin-binding
 growth factor-1) and cytokine genes in human cardiac allografts and T
 cells.";
 RL Transplantation 56:1177-1182(1993).
 RN [9]
 RN SEQUENCE OF 1-40 FROM N.A.
 RX MEDLINE=90365758; PubMed=2393407;
 RA Crumley G., Dione C.A., Jave M.;
 RT "The gene for human acidic fibroblast growth factor encodes two
 upstream exons alternatively spliced to the first coding exon.";
 RL Biochem. Biophys. Res. Commun. 171:7-13(1990).
 RN [10]
 RN SEQUENCE OF 16-155.
 RX MEDLINE=86296647; PubMed=2427112;
 RA Harper J.W., Strydom D.J., Lobb R.R.;
 RT "Human class I heparin-binding growth factor: structure and homology
 to bovine acidic brain fibroblast growth factor.";
 RL Biochemistry 25:4097-4103(1986).
 RN [11]
 RN SEQUENCE OF 16-155.
 RX MEDLINE=86295741; PubMed=3527167;
 RA Gimenez-Gallego G., Conn G., Hatcher V.B., Thomas K.A.;
 RT "The complete amino acid sequence of human brain-derived acidic
 fibroblast growth factor.";
 RL Biochem. Biophys. Res. Commun. 138:611-617(1986).
 RN [12]
 RN SEQUENCE OF 16-155.
 RX MEDLINE=87048871; PubMed=3778488;
 RA Gautschi-Sova P., Mueller T., Boehlen P.;
 RT "Amino acid sequence of human acidic fibroblast growth factor.";
 RL Biochem. Biophys. Res. Commun. 140:874-880(1986).
 RN [13]
 RN SEQUENCE OF 16-47.
 RX MEDLINE=86186784; PubMed=3964259;
 RA Gimenez-Gallego G., Conn G., Hatcher V.B., Thomas K.A.;
 RT "Human brain-derived acidic and basic fibroblast growth factors:
 amino terminal sequences and specific mitogenic activities.";
 RL Biochem. Biophys. Res. Commun. 135:541-548(1986).
 RN [14]
 RN SEQUENCE OF 16-49.
 RX MEDLINE=86275260; PubMed=372516;
 RA Gautschi P., Prater-Schroeder M., Boehlen P.;
 RT "Partial molecular characterization of endothelial cell mitogens from
 human brain: acidic and basic fibroblast growth factors.";
 RL FEBS Lett. 204:203-207(1986).
 RN [15]
 RN X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS).
 RX MEDLINE=96194129; PubMed=8652550;
 RA Blaber M., Disalvo J., Thomas K.A.;
 RT "X-ray crystal structure of human acidic fibroblast growth factor.";
 RL Biochemistry 35:2086-2094(1996).
 RN [16]
 RN STRUCTURE BY NMR OF 24-155.
 RX MEDLINE=94358885; PubMed=7521397;
 RA Pineda-lucena A., Jimenez M.A., Nieto J.L., Santoro J., Rico M.,
 Gimenez-Gallego G.;
 RT "1H-NMR assignment and solution structure of human acidic fibroblast
 growth factor activated by inositol hexaullate.";
 RL J. Mol. Biol. 242:81-98(1994).
 RN [17]
 RN STRUCTURE BY NMR OF 24-155.
 RX MEDLINE=97107535; PubMed=8950275;
 RA Pineda-lucena A., Jimenez M.A., Lozano R.M., Nieto J.L., Santoro J.,
 Rico M., Gimenez-Gallego G.;
 RT "Three-dimensional structure of acidic fibroblast growth factor in

RT solution: effects of binding to a heparin functional analog.";
 RL J. Mol. Biol. 264:162-178(1996).
 RN [18]
 RN STRUCTURE BY NMR OF 25-155.
 RX MEDLINE=96387896; PubMed=9719643;
 RA Lozano R.M., Jimenez M., Santoro J., Rico M., Gimenez-Gallego G.;
 RT "Solution structure of acidic fibroblast growth factor bound to 1,3,
 6-naphthalenetrisulfonate: a minimal model for the anti-tumoral
 action of suramin and suradietas.";
 RL J. Mol. Biol. 281:899-915(1998).
 CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS
 CC IN VIVO AND ARE POTENT MITOGENS FOR A VARIETY OF CELL TYPES IN
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 DR EMBL; X51943; CAA36206.1; -;
 DR EMBL; M30492; AAA52446.1; -;
 DR EMBL; M30490; AAA52446.1; JOINED.
 DR EMBL; M30491; AAA52446.1; JOINED.
 DR EMBL; M60515; AAA51672.1; -;
 DR EMBL; M60516; AAA51673.1; -;
 DR EMBL; M23087; AAA52638.1; -;
 DR EMBL; M23086; AAA52638.1; JOINED.
 DR EMBL; BC032697; AAA32697.1; -;
 DR EMBL; S67291; AAB29057.2; -;
 DR EMBL; X65778; CAA46661.1; -;
 DR PIR; A33665; A33665.
 DR PDB; 2AFG; 15-OCT-95.
 DR PDB; 1AXM; 22-APR-98.
 DR PDB; 2AXM; 22-APR-98.
 DR PDB; 1RML; 11-NOV-98.
 DR PDB; 1DJS; 23-JUN-00.
 DR PDB; 1DZC; 02-JUN-00.
 DR PDB; 1DZD; 09-JUN-00.
 Query Match 61.9%; Score 148; DB 1; Length 155;
 Best Local Similarity 67.4%; Pred. No. 7,6e-13;
 Matches 29; Conservative 3; Mismatches 11; Indels 0; Gaps 0;
 QY 1 YCKNGFPLRHPDGRVDGVRKSDPHIKLQLOAEKGVSIK 43
 DB 30 YCSNGHPLRLIPDGTVDGTRDRSPDHITOLLSAEVGEVYIK 72
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 AC FGF1_BOVIN STANDARD; PRT; 155 AA.
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 DT 23-OCT-1966 (Rel. 02, Created)
 DT 01-MAR-1989 (Rel. 10, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Heparin-binding growth factor 1 precursor (HBGF-1) (Acidic fibroblast
 DE growth factor) (AFGF) (Prostatoplin) (Endothelial cell growth factor
 DE beta and alpha chains) (Acidic eye-derived growth factor II) (EDGF
 DE II).
 GN FGF1 OR FGF-1 OR FGFR OR HBGF-1 OR ARGF.
 OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Bovinae; Bos.

OK NCBI_TaxId=9913;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Retina;
 RX MEDLINE=89083506; PubMed=3205724;
 RA Halley C., Courtois Y., Laurent M.;
 RT "Nucleotide sequence of bovine acidic fibroblast growth factor cDNA.";
 RL Nucleic Acids Res. 16:10913-10913(1988).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Retina;
 RX MEDLINE=89078619; PubMed=2849564;
 RA Alterio J., Halley C., Brou C., Soussi T., Courtois Y., Laurent M.;
 RT "Characterization of a bovine acidic FGF cDNA clone and its
 expression in brain and retina.";
 RL FEBS Lett. 242:41-46(1988).
 RN [3]
 RP SEQUENCE OF 2-155.
 RX MEDLINE=87016918; PubMed=3532107;
 RA Burgess W.H., Mehlman T., Marshak D.R., Fraser B.A., Maciag T.;
 RT "Structural evidence that endothelial cell growth factor beta is the
 precursor of both endothelial cell growth factor alpha and acidic
 fibroblast growth factor.";
 RL Proc. Natl. Acad. Sci. U.S.A. 83:7216-7220(1986).
 RN [4]
 RP SEQUENCE OF 2-155.
 RX MEDLINE=87026586; PubMed=3768327;
 RA Crabb J.W., Ames L.G., Carr S.A., Johnson C.M., Roberts G.D.,
 RT Bortoli R.S., McKeenan W.L.;
 RL "Complete primary structure of prostatropin, a prostate epithelial
 cell growth factor.";
 RN Biochemistry 25:4988-4993(1986).
 RN [5]
 RP SEQUENCE OF 16-155.
 RX MEDLINE=86070224; PubMed=4071057;
 RA Gimenez-Gallego G., Rodkey J., Bennett C., Rios-Candelore M.,
 RA Disalvo J., Thomas K.;
 RT "Brain-derived acidic fibroblast growth factor: complete amino acid
 sequence and homologues.";
 RL Science 230:1385-1388(1985).
 RN [6]
 RP SEQUENCE OF 16-44, AND COMPOSITION.
 RX MEDLINE=86055750; PubMed=4065099;
 RA Boehlen P., Esch F., Baird A., Gospodarowicz D.;
 RT "Acidic fibroblast growth factor (FGF) from bovine brain:
 amino-terminal sequence and comparison with basic FGF.";
 RL EMBO J. 4:1951-1956(1985).
 RN [7]
 RP SEQUENCE OF 16-56 FROM N.A.
 RX MEDLINE=86261806; PubMed=2425435;
 RA Abraham J.A., Merz A., Whang J.L., Tunojo A., Friedman J.,
 RA Hjertild K.A., Gospodarowicz D., Fiddes J.C.;
 RT "Nucleotide sequence of a bovine clone encoding the angiogenic
 protein, basic fibroblast growth factor.";
 RL Science 233:545-548(1986).
 RN [8]
 RP SEQUENCE OF 16-45.
 RX MEDLINE=89231704; PubMed=2714282;
 RA Quinkler W., Maasberg M., Bernotat-Danielowski S., Luehe N.,
 RA Sharma H.S., Schaper W.;
 RT "Isolation of heparin-binding growth factors from bovine, porcine and
 canine hearts.";
 RL Eur. J. Biochem. 181:67-73(1989).
 RN [9]
 RP SEQUENCE OF 1-18 FROM N.A.
 RA Philippe J.M., Renaud F., Desset S., Laurent M.;
 RL Submitted (JUL-1992) to the EMBL/GenBank/DBJ databases.
 RN [10]
 RP X-RAY CRYSTALLOGRAPHY (3.0 ANGSTROMS).
 RX MEDLINE=91095983; PubMed=1702556;
 RA Zhu X., Komlya H., Chitrino A., Faham S., Fox G.M., Arakawa T.,
 RA Hsu B.T., Rees D.C.;
 RT "Three-dimensional structures of acidic and basic fibroblast growth

RT factors.";
 RL Science 251:90-93(1991).
 CC -1- FUNCTION: THE HEPARIN-BINDING GROWTH FACTORS ARE ANGIOGENIC AGENTS
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 CC -----
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 DR EMBL, X14032; CAA32192.1; -;
 DR EMBL, M35608; AAA30517.1; -;
 DR EMBL, X66446; CAA47063.1; -;
 DR EMBL, M97660; AAA30563.1; -;
 DR EMBL, M97661; AAA30564.1; -;
 DR PIR, JH0613; GKBOA.
 DR PDB, 1BAR; 31-OCT-93.
 DR PDB, 1APC; 31-OCT-93.
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 DR Pfam; PF00167; FGF, 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR ProDom; PD000831; IL1_HBGF, 1.
 DR SMART; SM00442; FGF, 1.
 DR PROSITE; PS00247; HBGF, FGF, 1.
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 KW 3D-structure.
 FT PROPEP 1 15
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 FT CHAIN 16 155
 FT MOD RES 2 155
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:33:38 ; Search time 46.6154 Seconds
(without alignments)
249.110 Million cell updates/sec

Title: US-09-266-543-1

Perfect score: 239
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Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues

Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%
Listing first 45 summaries

Database :

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1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriap:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	239	100.0	196	4 P78443	P78443 homo sapien
2	238	99.6	130	6 O77767	O77767 canis fam11
3	238	99.6	153	11 Q925A3	Q925A3 mus musculu
4	212	88.7	170	11 O60487	O60487 cavia porce
5	203	84.9	101	13 P79706	P79706 cynops pyrr
6	203	84.9	125	13 Q98T08	Q98T08 cynops pyrr
7	203	84.9	155	13 Q90Y92	Q90Y92 cynops pyrr
8	188	77.0	87	6 Q8WMP4	Q8WMP4 equus cabal
9	184	77.0	108	6 Q9N1S7	Q9N1S7 capreolus c
10	179	74.9	111	6 Q9BDX1	Q9BDX1 macaca mula
11	179	74.9	155	13 Q8QFR9	Q8QFR9 fugu rubrip
12	156	65.3	114	4 Q16443	Q16443 homo sapien
13	156	65.3	114	4 Q00527	Q00527 homo sapien
14	148	61.9	62	6 Q8SPL2	Q8SPL2 equus cabal
15	140	58.6	106	6 Q9N1S8	Q9N1S8 capreolus c
16	118	49.4	59	4 Q9UBK1	Q9UBK1 homo sapien

17	109	45.6	59	4 Q16089	Q16089 homo sapien
18	109	45.6	60	4 Q16588	Q16588 homo sapien
19	109	45.6	70	11 Q54837	Q54837 mus musculu
20	104	43.5	76	6 Q9N0V2	Q9N0V2 ovis aries
21	103	43.1	195	11 Q8C399	Q8C399 mus musculu
22	103	43.1	208	11 Q8R5L5	Q8R5L5 ratu8 norv.
23	101	42.3	201	13 Q8AY90	Q8AY90 brachydantio
24	98.5	41.2	146	13 Q07659	Q07659 gallus galli
25	98	41.0	205	13 Q8AXA1	Q8AXA1 brachydantio
26	95	39.7	206	13 Q9YGP8	Q9YGP8 oncorhynch
27	90	37.7	268	4 Q8NFP0	Q8NFP0 homo sapien
28	86	36.0	124	13 Q90X05	Q90X05 amyeloma m
29	84	35.1	196	13 Q9YH31	Q9YH31 notophthalm
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31	83	34.7	111	13 Q90X01	Q90X01 amyeloma m
32	83	34.7	245	11 Q8R5L9	Q8R5L9 ratu8 norv
33	82	34.3	78	11 Q35340	Q35340 mus musculu
34	82	34.3	127	4 Q99517	Q99517 homo sapien
35	82	34.3	181	4 Q8T8G5	Q8T8G5 homo sapien
36	82	34.3	181	11 Q924B4	Q924B4 mus musculu
37	81.5	34.1	195	11 Q8R5L6	Q8R5L6 ratu8 norv
38	81.5	34.1	237	13 Q91A16	Q91A16 gallus galli
39	81.5	34.1	253	13 Q91A15	Q91A15 gallus galli
40	80.5	33.7	211	11 Q8R4X0	Q8R4X0 ratu8 norv
41	80.5	33.7	247	11 Q8R5L7	Q8R5L7 ratu8 norv
42	80.5	33.7	247	11 Q8BSF0	Q8BSF0 mus musculu
43	80.5	33.7	252	11 Q89096	Q89096 mus musculu
44	79	33.1	112	11 Q925A2	Q925A2 mus musculu
45	77.5	32.4	208	13 Q9PYV1	Q9PYV1 xenopus lae

ALIGNMENTS

RESULT 1
ID P78443 PRELIMINARY; PRT; 196 AA.
AC P78443;
DT 01-MAY-1997 (TREMBLrel. 03, Last sequence update)
DT 01-MAY-1997 (TREMBLrel. 03, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE 21 kDa basic fibroblast growth factor (BFGF).
GN FGF2.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OK NCBI_taxid=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89184522; PubMed=2538817;
RA Prats H., Kaghad M., Prats A.C., Klagesbrun M., Lejjas J.M.,
LIAUZUN P., Chalton P., Tauber U.P., Amalric F., Smith U.A., Caput D.;
RT "High molecular mass forms of basic fibroblast growth factor are
initiated by alternative CUG codons."
RT Proc. Natl. Acad. Sci. U.S.A. 86:1836-1840(1989).
RN [2]
RP SEQUENCE OF 81-168 FROM N.A.
RX MEDLINE=93038590; PubMed=1417798;
RA Watson R., Anthony F., Pickett M., Lambden P., Mason G.M.,
Thomas E.J.;
RT "Reverse transcription with nested polymerase chain reaction shows
expression of basic fibroblast growth factor transcripts in human
granulosa and cumulus cells from in vitro fertilization patients."
RT Biochem. Biophys. Res. Commun. 187:1227-1231(1992).
RL EMBL; J04513; AAA52532.1; -;
DR EMBL; S47380; AAD13853.1; -;
DR HSSP; P09038; 1BFF.
DR Interpro: IPR002348; IL1_HBGF.
DR Pfam: PF00167; FGF_1_HBGF.
DR PRINTS; PR00262; IL1HBGF.
DR Prodom; PD000831; IL1_HBGF_1.
DR SMART; SM00442; FGF_1.
DR PROSITE; PS00247; HBGF_FGF_1.

SQ SEQUENCE 196 AA; 21203 MW; DB5447137B60343 CRC64;

Query Match 100.0%; Score 239; DB 4; Length 196;

Best Local Similarity 100.0%; Pred. No. 2.4e-24; Indels 0; Gaps 0;

Matches 45; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY

DB

1 YCKNGFFLRHPDGRVDGVREKSDPHIKQLQAEERGVSIKGV 45

74 YCKNGFFLRHPDGRVDGVREKSDPHIKQLQAEERGVSIKGV 118

RESULT 2

ID 07767

AC 07767

DT 01-NOV-1998 (TRENBLREL. 08, Created)

DT 01-NOV-1998 (TRENBLREL. 08, Last sequence update)

DT 01-MAR-2003 (TRENBLREL. 23, Last annotation update)

DE Basic fibroblast growth factor (BFGF) (FGF-2) (Heparin-binding growth factor 2) (HBGF-2) (Prostatropin) (Prostatic growth factor) (Fragment).

GN BFGF.

OS Canis familiaris (Dog).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.

OX NCBI_Taxid=9615;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Adrenal gland;

RA Trocheta O.A., Jacobs R.M., LaMotte J.;

RT "The role of bFGF in canine Hemangioendothelioma."

RL Submitted (APR-1998) to the EMBL/GenBank/DBJ databases.

CC -1- FUNCTION: WIDE-SPECTRUM MITOGENIC, ANGIOGENIC, AND NEUROTROPHIC FACTOR. IMPLICATED IN A MULTITUDE OF PHYSIOLOGIC AND PATHOLOGIC PROCESSES, INCLUDING LIMB DEVELOPMENT, ANGIOGENESIS, WOUND HEALING, AND TUMOR GROWTH. POTENT MITOGEN AND CHEMOATTRACTANT FOR MESENCHYME-DERIVED CELLS. IMPLICATED IN THE DIFFERENTIATION, PROLIFERATION, AND MAINTENANCE OF CELLS IN THE CENTRAL NERVOUS SYSTEM AND IN BONE FORMATION. MAJOR ANGIOGENIC FACTOR THAT ALSO ACTIVATES TUMOR NEOVASCULARIZATION (BY SIMILARITY).

CC -1- SUBUNIT: FORMS A QUATERNARY COMPLEX WITH TWO PEGRI AND AT LEAST ONE HEPARIN SULFATE (BY SIMILARITY).

CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.

CC EMBL; AF060562; AAC35912.1; -.

DR HSSP; P09038; 1BPF.

DR InterPro; IPR002348; IL1_HBGF.

DR Pfam; PF00167; FGF; 1.

DR PRINTS; PR00262; IL1HBGF.

DR PRODOM; PD000831; IL1_HBGF; 1.

DR SMART; SM00442; FGF; 1.

DR PROSITE; PS00247; HBGF_FGF; 1.

KW Growth factor; Mitogen; Heparin-binding; Phosphorylation;

KW Developmental protein.

FT NON_TER 1

FT SITE 21

FT SITE 63

FT BINDING 91

FT MOD_RES 48

FT MOD_RES 96

FT NON_TER 130

FT SEQUENCE 130 AA; 14902 MW; 21900876878FAA CRC64;

Query Match 99.6%; Score 238; DB 6; Length 130;

Best Local Similarity 97.8%; Pred. No. 2e-24; Indels 0; Gaps 0;

Matches 44; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHPDGRVDGVREKSDPHIKQLQAEERGVSIKGV 45

8 YCKNGFFLRHPDGRVDGVREKSDPHIKQLQAEERGVSIKGV 52

DB

RESULT 3

ID 0925A3

AC 0925A3

DT 01-DEC-2001 (TRENBLREL. 19, Created)

DT 01-DEC-2001 (TRENBLREL. 19, Last sequence update)

DT 01-MAR-2003 (TRENBLREL. 23, Last annotation update)

DE Fibroblast growth factor 2.

GN FGF2.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OX NCBI_Taxid=10090;

RN [1]

RP SEQUENCE FROM N.A.

RC STRAIN=FVB/N;

RA Dicks R.P., Griep A.E.;

RT "Multiple novel variants of fibroblast growth factor 2 transcripts are expressed in mouse embryos."

RL Submitted (FEB-2001) to the EMBL/GenBank/DBJ databases.

DR EMBL; AY027551; AAK52308.1; -.

DR InterPro; IPR002348; IL1_HBGF.

DR Pfam; PF00167; FGF; 1.

DR PRINTS; PR00262; IL1HBGF.

DR PRODOM; PD000831; IL1_HBGF; 1.

DR SMART; SM00442; FGF; 1.

SQ SEQUENCE 153 AA; 17024 MW; AD8163CD8FA2FAAB CRC64;

Query Match 99.6%; Score 238; DB 11; Length 153;

Best Local Similarity 97.8%; Pred. No. 2.4e-24; Indels 0; Gaps 0;

Matches 44; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 YCKNGFFLRHPDGRVDGVREKSDPHIKQLQAEERGVSIKGV 45

32 YCKNGFFLRHPDGRVDGVREKSDPHIKQLQAEERGVSIKGV 76

DB

RESULT 4

ID 060487

AC 060487

DT 01-NOV-1996 (TRENBLREL. 01, Created)

DT 01-MAY-2000 (TRENBLREL. 13, Last sequence update)

DT 01-MAR-2003 (TRENBLREL. 23, Last annotation update)

DE Fibroblast growth factor 2 (FGF-2) (Fibroblast growth factor, basic) (BFGF) (Heparin-binding growth factor 2) (HBGF-2) (Prostatropin) (Prostatic growth factor) (Fragments).

GN FGF2.

OS Cavia porcellus (Guinea pig).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.

OX NCBI_Taxid=10141;

RN [1]

RP SEQUENCE OF 53-170 FROM N.A.

RC TISSUE=Prostate;

RA Ricciardelli C.;

RL Submitted (JAN-1996) to the EMBL/GenBank/DBJ databases.

CC [2]

RP SEQUENCE OF N-TERMINUS, PARTIAL SEQUENCE, AND ALTERNATIVE SPLICING.

CC MEDLINE=89273588; PubMed=2730645;

CC Sommer A., Moscatelli D., Rifkin D.B.;

CC "An amino-terminally extended and post-translationally modified form of a 25kD basic fibroblast growth factor."

CC Biochem. Biophys. Res. Commun. 160:1267-1274 (1989).

FT [3]

RP PARTIAL SEQUENCE, AND METHYLATION.

CC MEDLINE=91322114; PubMed=113785;

CC Burgess W.H., Blizik J., Mehlman T., Quarto N., Rifkin D.B.;

CC "Direct evidence for methylation of arginine residues in high molecular weight forms of basic fibroblast growth factor."

CC Cell Regul. 2:87-93 (1991).

FT [4]

RP CHARACTERIZATION.

CC TISSUE=Brain;

RX MEDLINE=87289686; PubMed=3475702;
 RA Moscatelli D., Joseph-Silverstein J., Manejias R., Rifkin D.B.;
 RT "Mr 25,000 heparin-binding protein from guinea pig brain is a high
 molecular weight form of basic fibroblast growth factor";
 RL Proc. Natl. Acad. Sci. U.S.A. 84:5778-5782 (1987).
 CC -1- FUNCTION: WIDE-SPECTRUM MITOGENIC, ANGIOGENIC, AND NEUROTROPHIC
 CC FACTOR. IMPLICATED IN A MULTITUDE OF PHYSIOLOGIC AND PATHOLOGIC
 CC PROCESSES, INCLUDING LIMB DEVELOPMENT, ANGIOGENESIS, WOUND
 CC HEALING, AND TUMOR GROWTH. POTENT MITOGEN AND CHEMOATTRACTANT FOR
 CC MESENCHYME-DERIVED CELLS. IMPLICATED IN THE DIFFERENTIATION,
 CC PROLIFERATION, AND MAINTENANCE OF CELLS IN THE CENTRAL NERVOUS
 CC SYSTEM AND IN BONE FORMATION. MAJOR ANGIOGENIC FACTOR THAT ALSO
 CC ACTIVATES TUMOR NEOVASCULARIZATION (BY SIMILARITY).
 CC -1- SUBUNIT: FORMS A QUATERNARY COMPLEX WITH TWO FGFR1 AND AT LEAST
 CC ONE HEPARAN SULFATE (BY SIMILARITY).
 CC -1- ALTERNATIVE PRODUCTS: AT LEAST TWO ISOFORMS, 18 KDA AND 25 KDA
 CC (SHOWN HERE); MAY BE PRODUCED BY USE OF ALTERNATIVE TRANSLATION
 CC INITIATION SITES. BOTH FORMS ARE ACTIVE.
 CC -1- PTM: THE N-TERMINAL OF ISOFORM 18 KDA IS BLOCKED (PROBABLE).
 CC -1- SIMILARITY: BELONGS TO THE HEPARIN-BINDING GROWTH FACTORS FAMILY.
 CC -1- CAUTION: THIS IS A CONCEPTUAL TRANSLATION; MANY FRAMESHIFTS WERE
 CC INTRODUCED FROM RESIDUES 77, 88, 93 AND 149 DOWNWARD TO EXTEND THE
 CC SIMILARITY TO THE HUMAN SEQUENCE AS WELL AS ON THE BASIS OF
 CC PARTIAL AMINO-ACID SEQUENCING.
 CC EMBL, L75974; AAA85394.1; ALT_FRAME.
 CC HSSP; P09038; 1BLA.
 DR InterPro: IPR002348; IL1_HBGF.
 DR PRINTS; PR00262; IL1HBGF.
 DR ProDom; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 KW Growth factor; Mitogen; Heparin-binding; Alternative initiation;
 KW Methylation; Phosphorylation; Developmental protein.
 FT NON_TER 1 1
 FT NON_CONS 15 16
 FT CHAIN <1 170 25 KDA BASIC FIBROBLAST GROWTH FACTOR.
 FT CHAIN 22 170 18 KDA BASIC FIBROBLAST GROWTH FACTOR.
 FT INIT_MET 22 22 FOR 18 KDA FORM.
 FT DOMAIN 11 14 POLY-ALA.
 FT NON_CONS 50 51
 FT SITE 61 63 CELL ATTACHMENT SITE (POTENTIAL).
 FT SITE 103 105 CELL ATTACHMENT SITE (POTENTIAL).
 FT BINDING 131 134 HEPARIN (BY SIMILARITY).
 FT MOD_RES 4 4 METHYLATION (MONO- OR DI-).
 FT MOD_RES 6 6 METHYLATION (MONO- OR DI-).
 FT MOD_RES 8 8 METHYLATION (MONO- OR DI-).
 FT MOD_RES 88 88 PHOSPHORYLATION (BY SIMILARITY).
 FT MOD_RES 136 136 PHOSPHORYLATION (BY SIMILARITY).
 FT MOD_RES 136 136 PHOSPHORYLATION (BY SIMILARITY).
 SQ SEQUENCE 170 AA; 18354 MW; F36BDC7365FEBC CRC64;
 Query Match 88.7%; Score 212; DB 11; Length 170;
 Best Local Similarity 95.2%; Pred. No. 9.3e-21;
 Matches 40; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
 Oy 4 NGGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSTIKGV 45
 Db 51 NGGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSTIKGV 92
 RESULT 5
 ID P79706 PRELIMINARY; PRT; 101 AA.
 AC P79706;
 DT 01-MAY-1997 (TREMBLrel. 03, Created)
 DT 01-MAY-1997 (TREMBLrel. 03, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Basic FGF (Fragment).
 OS Cynops pyrrhogaster (Japanese common newt).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Caudata; Salamandroidae; Salamandridae; Cynops.
 OC NCBI_TaxId=8330;
 RN [1]
 RP SEQUENCE FROM N.A.

RC TISSUE=Embryo;
 RA Suzuki A.S., Tabata T., Sakaguchi K., Takabatake T., Takeshima K.,
 RA Kaneda T.;
 RT "Serial expression of the genes in a mesodermatizing ectoderms of
 RT early Cynops galectula.";
 RL Submitted (NOV-1996) to the EMBL/Genbank/DBJ databases.
 DR EMBL; D89443; BAA13958.1; -.
 DR HSSP; P09038; 4FGF.
 DR InterPro: IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR ProDom; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 FT NON_TER 1 1
 FT NON_TER 101 101
 SQ SEQUENCE 101 AA; 11907 MW; 74A16C866C1P457A CRC64;
 Query Match 84.9%; Score 203; DB 13; Length 101;
 Best Local Similarity 86.7%; Pred. No. 8.4e-20;
 Matches 39; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
 Oy 1 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSTIKGV 45
 Db 5 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSTIKGV 49
 RESULT 6
 ID Q987D8 PRELIMINARY; PRT; 125 AA.
 AC Q987D8;
 DT 01-JUN-2001 (TREMBLrel. 17, Created)
 DT 01-JUN-2001 (TREMBLrel. 17, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Fibroblast growth factor-2 (Fragment).
 GN FGF-2.
 OS Cynops pyrrhogaster (Japanese common newt).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Caudata; Salamandroidae; Salamandridae; Cynops.
 OC NCBI_TaxId=8330;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Mizuno N., Hayashi T., Kondoh H., Okamoto M.;
 RT "Cynops fibroblast growth factor-2.";
 RL Submitted (OCT-2000) to the EMBL/Genbank/DBJ databases.
 DR EMBL; AB049625; BAB40835.1; -.
 DR HSSP; P09038; 1BFF.
 DR InterPro: IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR ProDom; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 FT NON_TER 1 1
 SQ SEQUENCE 125 AA; 14244 MW; 5C27FA1DC6E60C13 CRC64;
 Query Match 84.9%; Score 203; DB 13; Length 125;
 Best Local Similarity 86.7%; Pred. No. 1.1e-19;
 Matches 39; Conservative 3; Mismatches 3; Indels 0; Gaps 0;
 Oy 1 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSTIKGV 45
 Db 3 YCKNGFFLRHPDGRVGVREKSDPHIKQLQAEERGVSTIKGV 47
 RESULT 7
 ID Q90Y92 PRELIMINARY; PRT; 155 AA.
 AC Q90Y92;
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Fibroblast growth factor-2.

GN FGF-2.
 OS Cynops pyrrhogaster (Japanese common newt).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Amphibia; Batrachia; Caudata; Salamandroides; Salamandridae; Cynops.
 CX NCBI_TaxID=8330;
 RN (1)
 RP SEQUENCE FROM N.A.
 RA Susaki K., Nakamura K., Chiba C., Saito T.;
 RT "Expression of FGF2 during newt retinal development and
 regeneration.";
 RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AB064664; BAB63249.1; -
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR PRODOM; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 SQ SEQUENCE 155 AA; 17278 MW; 28583058538AB8D9 CRC64;

Query Match 84.9%; Score 203; DB 13; Length 155;
 Best Local Similarity 86.7%; Pred. No. 1.4e-19;
 Matches 39; Conservative 3; Mismatches 3; Indels 0; Gaps 0;

QY 1 YCKNGFRLRHPDGRVDGVRKSDPHIKQLQAEERGVSINGV 45
 |||||
 DB 33 YCKNGFRLRINSDDKVDGVRKSDPHIKQLQAEERGVSINGV 77

RESULT 8
 Q8WMP4 PRELIMINARY; PRT; 87 AA.
 AC Q8WMP4;
 DT 01-MAR-2002 (TREMBLrel. 20, Created)
 DT 01-MAR-2002 (TREMBLrel. 20, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Fibroblast growth factor 2 (Fragment).
 GN FGF2.
 OS Equus caballus (Horse).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
 CX NCBI_TaxID=9796;
 RN (1)
 RP SEQUENCE FROM N.A.
 RA Rinspanier R.;
 RT TISSUE=Endometrium;
 RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
 RN (2)
 RP SEQUENCE FROM N.A.
 RC TISSUE=Endometrium;
 RA Welter H.;
 RL Thesis (2002), Department of Physiology, University of Munich,
 RL Freising, Germany.
 DR EMBL; AJ319906; CAC86028.1; -
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR PRODOM; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 FT NON_TER 1
 RT NON_TER 1
 SQ SEQUENCE 87 AA; 10128 MW; 52382DDF0245739E CRC64;

Query Match 78.7%; Score 188; DB 6; Length 87;
 Best Local Similarity 100.0%; Pred. No. 7.7e-18;
 Matches 37; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 9 LRIHPDGRVDGVRKSDPHIKQLQAEERGVSINGV 45
 |||||
 DB 1 LRIHPDGRVDGVRKSDPHIKQLQAEERGVSINGV 37

RESULT 9
 Q9N1S7 PRELIMINARY; PRT; 108 AA.
 AC Q9N1S7;
 DT 01-OCT-2000 (TREMBLrel. 15, Created)
 DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Basic fibroblast growth factor (Fragment).
 GN BFGF.
 OS Capreolus capreolus (Roe deer).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidae;
 CC Cervidae; Odocoileinae; Capreolus.
 CX NCBI_TaxID=9858;
 RN (1)
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testis;
 RX MEDLINE=20532861; PubMed=11078967;
 RA Wagener A., Biotner S., Gortz F., Fickel J.;
 RT "Detection of growth factors in the testis of roe deer (Capreolus
 capreolus).";
 RL Anim. Reprod. Sci. 64:65-75 (2000).
 DR EMBL; AF152587; AAF73226.1; -
 DR HSSP; P09038; 4FGF.
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR PRODOM; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 FT NON_TER 1
 RT NON_TER 1
 SQ SEQUENCE 108 AA; 12399 MW; 6BC7B744214567E CRC64;

Query Match 77.0%; Score 184; DB 6; Length 108;
 Best Local Similarity 100.0%; Pred. No. 3.5e-17;
 Matches 36; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 10 LRIHPDGRVDGVRKSDPHIKQLQAEERGVSINGV 45
 |||||
 DB 1 LRIHPDGRVDGVRKSDPHIKQLQAEERGVSINGV 36

RESULT 10
 Q9BDX1 PRELIMINARY; PRT; 111 AA.
 AC Q9BDX1;
 DT 01-JUN-2001 (TREMBLrel. 17, Created)
 DT 01-JUN-2001 (TREMBLrel. 17, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Basic fibroblast growth factor (Fragment).
 OS Macaca mulatta (Rhesus macaque).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 CC Cercopithecoidea; Macaca.
 CX NCBI_TaxID=9544;
 RN (1)
 RP SEQUENCE FROM N.A.
 RA Sekhon H.S., Keller J.K., Spindel E.R.;
 RT "Alterations in Collagen and Elastin Gene Expression in Fetal
 Pulmonary Vessels in Monkeys Following Prenatal Nicotine Exposure: A
 Possible Role of alpha7 Nicotinic Acetylcholine Receptor in Persistent
 Pulmonary Hypertension.";
 RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF251270; AAK37962.1; -
 DR HSSP; P09038; 2FGF.
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR PRODOM; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_FGF; 1.
 FT NON_TER 1
 RT NON_TER 1

FT NON_TER 111 111
SQ SEQUENCE 111 AA; 12633 MW; EC0967A5261F5487 CRC64;

Query Match
Best Local Similarity 74.9%; Score 179; DB 6; Length 111;
Matches 35; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 11 IHPDGRVGVREKSDPHIKLQQAERGVVSIKGV 45
DB 1 IHPDGRVGVREKSDPHIKLQQAERGVVSIKGV 35

RESULT 11

O8QFR9 PRELIMINARY; PRT; 155 AA.
AC O8QFR9;
DT 01-JUN-2002 (TREMBLrel. 21, Last Created)
DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Basic fibroblast growth factor.
GN FGF2.
OS Fugu rubripes (Japanese pufferfish) (Takifugu rubripes).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
OC Acanthomorphia; Acanthopterygii; Percomorpha; Tetraodontiformes;
OC Tetraodontidae; Tetraodontidae; Takifugu.
OX NCBI_Taxid=31033;
RN [1]
RP SEQUENCE FROM N.A.
RA Botcherby M.R.;
RT "Comparative vertebrate genomic sequence analysis studies based on Fugu rubripes";
RT Thesis (2001), University College London, London, United Kingdom.
DR EMBL; AJ426040; CAD19830.1; -;
DR InterPro; IPR002348; IL1_HBGF.
DR Pfam; PF00167; FGF; 1.
DR ProDom; PD000831; IL1_HBGF; 1.
DR SMART; SM00442; FGF; 1.
DR PROSITE; PS00247; HBGF; FGF; 1.
SQ SEQUENCE 155 AA; 17113 MW; AEPRI2BDC78PB8E CRC64;

Query Match
Best Local Similarity 74.9%; Score 179; DB 13; Length 155;
Matches 35; Conservative 1; Mismatches 9; Indels 0; Gaps 0;

OY 1 YKNGGFPLRIHPDGRVGVREKSDPHIKLQQAERGVVSIKGV 45
DB 33 YKNGGFPLRIHPDGRVGVREKSDPHIKLQQAERGVVSIKGV 77

RESULT 12

O16443 PRELIMINARY; PRT; 114 AA.
AC O16443;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Basic fibroblast growth factor (Fragment).
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.
OX NCBI_Taxid=9606;
RN [1]
RP SEQUENCE FROM N.A.
RA MEDLINE=92152654; PubMed=1785797;
RA Flokiewicz Z.; Shibata F.; Barankiewicz T.; Baird A.;
RA Gonzalez A.M.; Flokiewicz E.; Shah N.;
RT "Basic fibroblast growth factor gene expression.";
RT Ann. N. Y. Acad. Sci. 638:109-126(1991).
DR EMBL; S81809; AAB21432.2; -;
DR HSSP; P09038; 1BFF.
DR InterPro; IPR002348; IL1_HBGF.
DR Pfam; PF00167; FGF; 1.

DR ProDom; PD000831; IL1_HBGF; 1.
FT NON_TER 114 114
SQ SEQUENCE 114 AA; 11670 MW; 8BDC4A9C774D61AA CRC64;

Query Match
Best Local Similarity 65.3%; Score 156; DB 4; Length 114;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YKNGGFPLRIHPDGRVGVREKSDPH 27
DB 88 YKNGGFPLRIHPDGRVGVREKSDPH 114

RESULT 13

O00527 PRELIMINARY; PRT; 114 AA.
AC O00527;
DT 01-JAN-1998 (TREMBLrel. 05, Created)
DT 01-JAN-1999 (TREMBLrel. 09, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Basic fibroblast growth factor (Fragment).
GN FGF-2 OR FGF2.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.
OX NCBI_Taxid=9606;
RN [1]
RP SEQUENCE FROM N.A.
RA Handesch K.; Glaeser C.;
RT "Polymorphism in the 5' untranslated region of the FGF-2 gene: C to T transition (79 bp upstream of the first CTG codon).";
RT Submitted (May-1997) to the EMBL/Genbank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RC TISSUE=Blood;
RA Handesch K.; Archonkikh E.; Glaeser C.;
RT "Mutations in the 5' untranslated region of the FGF-2 gene: transition G to A on position 19 and transversion G to C on position 97.";
RT Submitted (Nov-1999) to the EMBL/Genbank/DBJ databases.
DR EMBL; Y13468; CA473868.1; -;
DR EMBL; AJ250952; CAB61690.1; -;
DR HSSP; P09038; 1BFF.
DR InterPro; IPR002348; IL1_HBGF.
DR Pfam; PF00167; FGF; 1.
DR ProDom; PD000831; IL1_HBGF; 1.
FT NON_TER 114 114
SQ SEQUENCE 114 AA; 11688 MW; 9BDC6381C1960CID CRC64;

Query Match
Best Local Similarity 65.3%; Score 156; DB 4; Length 114;
Matches 27; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 YKNGGFPLRIHPDGRVGVREKSDPH 27
DB 88 YKNGGFPLRIHPDGRVGVREKSDPH 114

RESULT 14

O8SP12 PRELIMINARY; PRT; 62 AA.
AC O8SP12;
DT 01-JUN-2002 (TREMBLrel. 21, Created)
DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Fibroblast growth factor 1 (Fragment).
GN FGF-1.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_Taxid=9796;
RN [1]

RP SEQUENCE FROM N.A.
 RC TISSUE=Endometrium;
 RA Welter H., Bollwein H., Einspanier R.;
 RT "Expression of horse endometrium.";
 RL Submitted (MAR-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AJ439890; CAD29181.1; -
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR Prodom; PD000831; IL1_HBGF; 1.
 FT NON_TER 1
 FT NON_TER 62
 SQ SEQUENCE 62 AA; 6851 MW; CA427E3D1D7934E0 CRC64;

Query Match 61.9%; Score 148; DB 6; Length 62;
 Best Local Similarity 67.4%; Pred. No. 1.4e-12;
 Matches 29; Conservative 3; Mismatches 11; Indels 0; Gaps 0;

Oy 1 YCKNGFPLRIHPDGRVDGVRKSDPHIKQLQAEERGVSIX 43
 |||||
 11 YCSNGHFLRIIPDGTVDGTRDRSDQHILQLSAESIGEVYIX 53

RESULT 15

ID Q9N1S8 PRELIMINARY; PRT; 106 AA.
 AC Q9N1S8;
 DT 01-OCT-2000 (TrEMBLrel. 15, Created)
 DT 01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
 DT 01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
 DE Acidic fibroblast growth factor (Fragment).
 GN AFGF.
 OS Capreolus capreolus (Roe deer).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervidae;
 OC Cervidae; Odocoileinae; Capreolus.
 OX NCBI_TaxID=9858;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testis;
 RX MEDLINE=20532861; PubMed=11078867;
 RA Wagener A., Biotner S., Goritz F., Fickel J.;
 RT "Detection of growth factors in the testis of roe deer (Capreolus
 RT capreolus).";
 RL Anim. Reprod. Sci. 64:65-75(2000).
 DR EMBL; AF152586; AAF73225.1; -
 DR HSSP; P05230; ZARG.
 DR InterPro; IPR002348; IL1_HBGF.
 DR Pfam; PF00167; FGF; 1.
 DR PRINTS; PR00262; IL1HBGF.
 DR Prodom; PD000831; IL1_HBGF; 1.
 DR SMART; SM00442; FGF; 1.
 DR PROSITE; PS00247; HBGF_RGF; 1.
 FT NON_TER 1
 FT NON_TER 106
 SQ SEQUENCE 106 AA; 11931 MW; 2BEC9C1D749A5023 CRC64;

Query Match 58.6%; Score 140; DB 6; Length 106;
 Best Local Similarity 64.3%; Pred. No. 3.2e-11;
 Matches 27; Conservative 5; Mismatches 10; Indels 0; Gaps 0;

Oy 2 CKNGGFPLRIHPDGRVDGVRKSDPHIKQLQAEERGVSIX 43
 |||||
 1 CRNGHFLRIIPDGTVDGTRDRSDQHILQLSAESIGEVYIX 42

Search completed: January 30, 2004, 11:44:37
 Job time : 47.6154 secs

GenCore version 5.1.6
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OW protein - protein search, using sw model

Run on: January 30, 2004, 11:27:08 ; Search time 17.8 Seconds
(without alignments)
115.924 Million cell updates/sec

Title: US-09-266-543-3
Perfect score: 78
Sequence: 1 CRTKPEKCDKPRR 13

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues
Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

A: Geneseq_19Jun03:*

- 1: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1980.DAT:*
- 2: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1981.DAT:*
- 3: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1982.DAT:*
- 4: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1983.DAT:*
- 5: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1984.DAT:*
- 6: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1985.DAT:*
- 7: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1986.DAT:*
- 8: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1987.DAT:*
- 9: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1988.DAT:*
- 10: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1989.DAT:*
- 11: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1990.DAT:*
- 12: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1991.DAT:*
- 13: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1992.DAT:*
- 14: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1993.DAT:*
- 15: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1994.DAT:*
- 16: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1995.DAT:*
- 17: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1996.DAT:*
- 18: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1997.DAT:*
- 19: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1998.DAT:*
- 20: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA1999.DAT:*
- 21: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA2000.DAT:*
- 22: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA2001.DAT:*
- 23: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA2002.DAT:*
- 24: /SIDS1/gcgdata/geneseq/geneeqp-emb1/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	78	100.0	13	21	AA18544
2	69	88.5	20	21	AA18545
3	69	88.5	146	13	AA22348
4	69	88.5	146	13	AA27354
5	69	88.5	146	19	AA53640
6	69	88.5	146	21	AA57029
7	69	88.5	146	22	AA37505
8	53	67.9	12	20	AA23944
9	53	67.9	105	21	AA53387

10	53	67.9	121	12	AA11385
11	53	67.9	121	14	AA42607
12	53	67.9	121	20	AA23943
13	53	67.9	121	20	AA508278
14	53	67.9	121	22	AA58428
15	53	67.9	121	24	AA53329
16	53	67.9	146	20	AA533438
17	53	67.9	147	16	AA91075
18	53	67.9	147	17	AA94001
19	53	67.9	147	19	AA652524
20	53	67.9	147	21	AA99402
21	53	67.9	147	21	AA69412
22	53	67.9	147	21	AA583033
23	53	67.9	147	22	AA598080
24	53	67.9	147	22	AA550427
25	53	67.9	147	22	AA550431
26	53	67.9	147	23	AA576299
27	53	67.9	148	17	AA94031
28	53	67.9	148	17	AA94032
29	53	67.9	212	24	AA533398
30	53	67.9	222	24	AA533397
31	53	67.9	339	24	AA533402
32	53	67.9	367	24	AA533400
33	53	67.9	368	24	AA533396
34	53	67.9	371	24	AA533399
35	53	67.9	377	17	AA500586
36	53	67.9	377	24	AA533408
37	53	67.9	381	24	AA533407
38	53	67.9	384	17	AA94071
39	53	67.9	399	17	AA500587
40	53	67.9	472	24	AA533404
41	53	67.9	500	17	AA500589
42	53	67.9	505	17	AA500588
43	53	67.9	512	17	AA500590
44	53	67.9	514	17	AA94073
45	53	67.9	524	17	AA500594

ALIGNMENTS

RESULT 1	
AA18544	AA18544 standard; peptide; 13 AA.
AA18544;	
15-JAN-2001 (first entry)	
DE	Immunogenic peptide fragment derived from FGF and/or VEGF.
XX	
AC	Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer;
XX	vascular endothelial growth factor; hyperproliferative disorder;
DT	haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis;
XX	telangiectasia; psoriasis; scleroderma; pyogenic granuloma;
XX	myocardial angiogenesis; Crohn's disease; plaque neovascularisation;
XX	arteriovenous malformation; corneal disease; rubecosis;
KW	neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia;
KW	arthritis; diabetic neovascularisation; macular degeneration;
KW	wound healing; peptic ulcer; Helicobacter related disease; fracture;
KW	keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;
KW	placentation; cat scratch fever.
OS	Unidentified.
PN	WO200053219-A2.
PD	14-SEP-2000.
PF	10-MAR-2000; 2000WO-US06320.
PR	11-MAR-1999; 99US-0266543.
XX	

Human vascular end
Human VEGF-121. H
Amino acid sequenc
Human growth facto
Mature human vascu
Human vascular end
Parapox virus VEGF
Human vascular end
VEGF121. Homo sap
Amino acid sequenc
VEGF encoded by cl
Amino acid sequenc
Human vascular end
Human VEGF splice
Human vascular end
Human VEGF121. Ho
Human VEGF121. Ho
VEGF121 Cys+4. Ho
Human VEGF121/MK F
Human VEGF121/HNF
Human KAR/VEGF121
Human VEGF121/NLS
Human VEGF121/angi
Human VEGF121/NL1
SAP-11amc-VEGF121
Human VEGF121/Link
Human VEGF121/Link
SAP (Gly4Ser) 4VEGF12
SAP (Gly4Ser) 4VEGF1
Human Ang-2x CCD/K
SAP-11amc-VEGF121
SAP-11amc-VEGF121
SAP (Gly4Ser) VEGF12
SAP (Gly4Ser) 2VEGF12

PA (ENTR-) ENTREMED INC.
 XX Holaday JW, Ruiz A, Madsen J;
 PI WPI; 2000-594263/56.
 DR
 XX An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 PS Claim 13; Page 28; 95pp; English.
 CC AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubecosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentaion and cat scratch fever.
 CC
 SQ Sequence 13 AA;
 Query Match 100.0%; Score 78; DB 21; Length 13;
 Best Local Similarity 100.0%; Pred. No. 7.8e-05;
 Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 CRTREKCDKPPR 13
 Db 1 CRTREKCDKPPR 13
 RESULT 2
 AAB18545
 ID AAB18545 standard; peptide; 20 AA.
 XX
 AC AAB18545;
 XX
 DT 15-JAN-2001 (first entry)
 DE
 XX Immunogenic peptide fragment derived from FGF and/or VEGF.
 XX
 KW Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer;
 KW vascular endothelial growth factor; hyperproliferative disorder;
 KW haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis;
 KW telangiectasia; psoriasis; scleroderma; pyogenic granuloma;
 KW myocardial angiogenesis; Crohn's disease; plaque neovascularisation;
 KW arteriovenous malformation; corneal disease; rubecosis;
 KW neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia;
 KW arthritis; diabetic neovascularisation; macular degeneration;
 KW wound healing; peptic ulcer; Helicobacter related disease; fracture;
 KW keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;
 KW placentaion; cat scratch fever.
 KM
 XX
 OS Unidentified.
 XX
 PN WO200053219-A2.
 PD 14-SEP-2000.
 XX
 PF 10-MAR-2000; 2000WO-US06320.
 PR 11-MAR-1999; 99US-0266543.
 PA (ENTR-) ENTREMED INC.
 XX Holaday JW, Ruiz A, Madsen J;
 PI
 XX

DR WPI; 2000-594263/56.
 XX
 PT An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 PS Claim 13; Page 28; 95pp; English.
 CC AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubecosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentaion and cat scratch fever.
 CC
 SQ Sequence 20 AA;
 Query Match 88.5%; Score 69; DB 21; Length 20;
 Best Local Similarity 100.0%; Pred. No. 0.0023;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 2 RTREKCDKPPR 13
 Db 9 RTREKCDKPPR 20
 RESULT 3
 AAR22348
 ID AAR22348 standard; Protein; 146 AA.
 XX
 AC AAR22348;
 XX
 DT 29-JUL-1992 (first entry)
 DE
 XX Alternative form of VEGF mature A-subunit with 120 amino acids.
 XX
 KW Rat glioma cell; GS-9L; conditioned medium; heterodimer; VEGF-II;
 KW homodimer; mitogenesis; vascular repair; blood vessel implant;
 KW polymerase chain reaction; alternative splicing.
 KM
 XX
 OS Rattus.
 XX
 FH Key Location/Qualifiers
 FT Peptide 1..26
 FT Protein /label= signal
 FT /label= VEGF A-subunit
 FT /note= "120 amino acids long"
 XX
 PN EP476983-A.
 PD 25-MAR-1992.
 XX
 PF 18-SEP-1991; 91EP-0308489.
 PR 21-SEP-1990; 90US-0586640.
 PR 21-SEP-1990; 90US-0586638.
 PA (MERI) MERCK & CO INC.
 XX
 XX Bayne ML, Conn GL, Thomas KA;
 PI WPI; 1992-098641/13.
 DR N-PSDB; AAQ23039.
 XX
 PT Vascular endothelial cell growth factor II - used as coating for

PT artificial blood vessels or to promote tissue repair
 XX
 PS Example 9; Page 14 and Fig 4; 38pp; English.
 XX
 CC Multiple cDNAs encoding alternative forms of the VEGF A-subunit
 CC were amplified using PCR primers as in AAQ23049 and AAQ23050. Three
 CC sets of clones were identified. Clone #12 encoded the 164 amino acid
 CC secreted form of VEGF A-subunit (see AAR22347). Clone #14 has a 135 bp
 CC deletion and thus encodes a 120 amino acid form and Clone #16 has a
 CC 72bp insertion and encodes a 188 amino acid mature protein (AAR22351).
 CC The deleted region lies between the second base of the Asn140 codon
 CC and the third base of the Arg184 codon. The 120 amino acid mature
 CC protein has Asn140 converted to Lys140.
 CC See also AAQ23038-Q23059.
 CC
 XX
 SQ Sequence 146 AA;
 Query Match 88.5%; Score 69; DB 13; Length 146;
 Best Local Similarity 100.0%; Pred. No. 0.014;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 2 RTKPEKCDKPRR 13
 DB 135 RTKPEKCDKPRR 146
 RESULT 4
 AAR27354
 ID AAR27354 standard; Protein; 146 AA.
 XX
 AC AAR27354;
 XX
 DT 25-MAR-2003 (updated)
 DT 25-FEB-1993 (first entry)
 XX
 DE Sequence of vascular endothelial cell growth factor VEGF A
 DE 146 amino acid residue subunit.
 XX
 KW Vascular development; mitogen; blood vessel;
 KW vascular endothelial growth factor; neovascularisation.
 KM
 OS Rattus.
 XX
 PN EP506477-A1.
 XX
 PD 30-SEP-1992.
 XX
 PF 27-MAR-1992; 92EP-0302750.
 XX
 PR 28-MAR-1991; 91US-0676436.
 XX
 PA (MERI) MERCK & CO INC.
 XX
 PI Bayne ML, Thomas KA;
 XX
 DR WPI: 1992-325745/40.
 DR N-PSDB; AAQ28953.
 XX
 PT Vascular endothelial cell growth factor sub-units - which stimulate
 PT vascular endothelial cell growth, used for inducing tissue repair
 PT and growth.
 PS
 PS Disclosure; Fig 4; 61pp; English.
 XX
 CC The full length coding region of the A subunit or monomer of VEGF
 CC is determined from three sets of overlapping cDNA clones. Degenerate
 CC oligo. primers based on the amino acid sequences
 CC Phe-Met-Asp-Val-Tyr-Gln from polypeptide I42 (residues 42-47) and
 CC Cys-Iys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used
 CC to PCR amplify the central region of the cDNA for VEGF A chain.
 CC A single band migrating at 420 bp was gel purified, digested with SalI,
 CC ligated into pGEM3Zf(+) and sequenced. The nucleotide sequence
 CC obtained (p4238) was used to design antisense and sense PCR primers

CC to amplify the 5' and 3' ends of the cDNA. These 5' and 3' clones
 CC are denoted p5-15 and pW3, respectively. In addition to the cDNA
 CC coding the 164 amino acid secreted form identified by protein
 CC sequencing, two alternatively spliced cDNAs encoding a 146 amino acid
 CC and a 214 amino acid forms are cloned and sequenced.
 CC (Updated on 25-MAR-2003 to correct PN field.)
 CC (Updated on 25-MAR-2003 to correct PD field.)
 XX
 SQ Sequence 146 AA;
 Query Match 88.5%; Score 69; DB 13; Length 146;
 Best Local Similarity 100.0%; Pred. No. 0.014;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 2 RTKPEKCDKPRR 13
 DB 135 RTKPEKCDKPRR 146
 RESULT 5
 AAM53640
 ID AAM53640 standard; Protein; 146 AA.
 XX
 AC AAM53640;
 XX
 DT 30-JUL-1998 (first entry)
 DT
 XX
 DE Vascular endothelial growth factor II A subunit variant.
 XX
 KW Vascular endothelial cell growth factor; VEGF II; rat; glioma cell;
 KW mitogenesis; blood vessel growth; artificial blood vessel.
 XX
 OS Rattus sp.
 XX
 PN US5726152-A.
 XX
 PD 10-MAR-1998.
 XX
 PF 31-AUG-1994; 94US-0299185.
 XX
 PR 31-AUG-1994; 94US-0299185.
 PR 21-SEP-1990; 90US-0586638.
 PR 05-JAN-1993; 93US-0000834.
 XX
 PA (MERI) MERCK & CO INC.
 XX
 PI Bayne ML, Conn GL, Thomas KA;
 XX
 DR WPI: 1998-206007/18.
 DR
 XX
 PT Vascular endothelial growth factor proteins - having specified A and
 PT B sub-units
 PS
 PS Claim 1; Page -: 46pp; English.
 XX
 CC The present sequence represents a rat vascular endothelial growth factor
 CC II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140,
 CC and the deletion of His 141 to Arg 184 from the wild-type given in
 CC AAM53639. The present invention describes: (1) a mammalian VEGF II
 CC protein comprising an A subunit from AAM53639, AAM53640 or AAM53641, and
 CC a B subunit from AAM53638, AAM53639 or the first 115-135 amino acids of
 CC AAM53638; and (2) a mammalian VEGF comprising a heterodimer or homodimer
 CC of B subunits. The growth factor is used for promoting vascular
 CC development and repair and for promoting tissue repair.
 CC N.B. The present sequence is not given in the specification but is
 CC derived from Fig 5 as stated in the claim.
 XX
 SQ Sequence 146 AA;
 Query Match 88.5%; Score 69; DB 19; Length 146;
 Best Local Similarity 100.0%; Pred. No. 0.014;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 RTKEKCDKPRR 13
 |||||
 XX 135 RTKEKCDKPRR 146

RESULT 6
 ID AAY57029 standard; Protein; 146 AA.
 XX
 AC AAY57029;

XX 15-FEB-2000 (first entry)

DE VEGFA 146 amino acid residue subunit sequence.

XX VEGF; vascular endothelial growth factor; A subunit; tissue growth;
 KM vascular development; artificial blood vessel; repair; human.

XX Homo sapiens.

XX US5994300-A.

XX 30-NOV-1999.

XX 20-SEP-1993; 93US-0124259.

XX 28-MAR-1991; 91US-0676436.

XX (MERI) MERCK & CO INC.

XX Thomas KA, Bayne ML;

XX WPI; 2000-038268/03.

XX N-PSDB; AA239827.

XX Purified and isolated vascular endothelial cell growth factor C subunit
 PT for the induction of tissue repair or growth -

XX Disclosure; Fig 3; 58pp; English.

XX This is the amino acid sequence of a 146 amino acid residue A subunit of
 CC vascular endothelial cell growth factor (VEGF). The invention relates to
 CC a purified and isolated VEGF C subunit amino acid sequence AAY57025.
 CC VEGF exists in various microheterogeneous forms, and is useful for the
 CC promotion of vascular development and repair. The invention also relates
 CC to human VEGF heterodimers AC or BC and homodimer CC, where A, B and C
 CC are subunit amino acid sequences. The VEGF AC, BC or CC amino acid
 CC sequences can be used in a tissue repairing pharmaceutical composition.
 CC The novel growth factors are useful for the production or coverage of
 CC artificial blood vessels with vascular endothelial cell. They are also
 CC useful for the induction of tissue growth and repair.

XX Sequence 146 AA;

Query Match 88.5%; Score 69; DB 21; Length 146;
 Best Local Similarity 100.0%; Pred. No. 0.014;

Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 RTKEKCDKPRR 13
 |||||
 DB 135 RTKEKCDKPRR 146

RESULT 7
 ID AAB37505 standard; Protein; 146 AA.

XX AAB37505;

XX 26-FEB-2001 (first entry)

DE Rat VEGF subunit A SEQ ID NO: 33.

KM Vascular endothelial growth factor; VEGF C subunit; cell division;
 KM artificial blood vessel; tissue growth; tissue repair.

XX Rattus sp.

XX US6140073-A.

XX 31-OCT-2000.

XX 16-JAN-1996; 96US-0586039.

XX 20-SEP-1993; 93US-0124259.

XX 28-MAR-1991; 91US-0676436.

XX (MERI) MERCK & CO INC.

XX Thomas KA, Bayne ML;

XX WPI; 2001-014858/02.

XX N-PSDB; AAC83512.

XX Human vascular endothelial cell growth factor (VEGF) C subunit DNA and
 PT protein, useful for promoting vascular development and repair, and for
 PT promoting tissue repair, especially for treating wounds in mammals -
 XX Example 9; Fig 4; 58pp; English.

XX The present invention is concerned with the human vascular endothelial
 CC growth factor (VEGF) C subunit. VEGF is a vascular endothelial cell
 CC mitogen and can be used to promote vascular development and repair. The C
 CC subunit may exist as a homodimer or a heterodimer with the VEGF A or B
 CC subunit. VEGF can be used in the treatment of wounds of mammals, to cover
 CC production of artificial blood vessels with vascular endothelial cells, in the
 CC growth.

XX Sequence 146 AA;

Query Match 88.5%; Score 69; DB 22; Length 146;
 Best Local Similarity 100.0%; Pred. No. 0.014;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 RTKEKCDKPRR 13
 |||||
 DB 135 RTKEKCDKPRR 146

RESULT 8
 ID AAY23944 standard; peptide; 12 AA.

XX AAY23944;

XX 21-SEP-1999 (first entry)

DE Peptide derived from vascular endothelial growth factor (VEGF) 121.

KM Vascular endothelial growth factor; VEGF; VEGF 121; monoclonal antibody.

XX Homo sapiens.

XX JP11178593-A.

XX 06-JUL-1999.

XX 24-DEC-1997; 97JP-0365972.

XX 24-DEC-1997; 97JP-0365972.

XX (FURE) FUJIREBIO KK.

XX WPI; 1999-437318/37.

SQ Sequence 121 AA;
 Query Match 67.9%; Score 53; DB 12; Length 121;
 Best Local Similarity 75.0%; Pred. No. 2.4;
 Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 RTKPEKCDKPRR 13
 | : |||||
 DB 110 RARQEKCDKPRR 121

RESULT 11
 AAR42607
 ID AAR42607 standard; Protein; 121 AA.
 XX
 AC AAR42607;
 XX
 DT 25-MAR-2003 (updated)
 DT 28-OCT-1993 (first entry)
 XX
 DE Human VEGF-121.
 XX
 KM Angiogenesis; wound healing; mitogen; vascular endothelial cells;
 KM Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
 XX
 OS Homo sapiens.
 XX
 PH Key Location/Qualifiers
 FT Misc-difference /note= "inserted amino acid relative to hVEGF"
 FT Misc-difference 115
 FT /note= "Lys 115 of hVEGF-121 is replaced by 44
 amino acids encoded by an alternatively
 spliced exon in hVEGF-165 (see AAR38921)."
 XX
 XX US5219739-A.
 XX
 PD 15-JUN-1993.
 XX
 PF 27-JUL-1990; 90US-0559041.
 XX
 PR 27-JUL-1989; 89US-0387545.
 PR 14-DEC-1989; 89US-0450883.
 PR 27-JUL-1990; 90US-0559041.
 XX
 PA (SCIO-) SCIOS NOVA INC.
 XX
 PI Abraham JA, Fiddes JC, Mitchell RL, Tischer EG;
 XX
 DR WPI, 1993-205302/25.
 DR N-PSDB; AAQ49601.
 XX
 PT Isolated DNA sequences, expression vectors and transformant cells
 PT - used for large scale prodn. of vascular endothelial cell growth
 PT factor, for treating wounds in which neo-vascularisation is
 PT required
 XX
 PS Claim 3; Fig 7; 40pp; English.
 XX
 CC The sequence of AAQ4260 contains an open reading frame corresponding
 CC to the 165 amino acid human vascular endothelial cell growth
 CC factor (hVEGF-165, see AAR38921). Alternative splicing of the
 CC sequence gives a shorter coding sequence which encodes the 121
 CC amino acid hVEGF (see AAR42607). The full-length coding sequences can
 CC be generated using PCR with human foetal vascular smooth muscle
 CC poly-A+ RNA as template.
 CC (Updated on 25-MAR-2003 to correct PF field.)
 CC
 SQ Sequence 121 AA;
 Query Match 67.9%; Score 53; DB 14; Length 121;
 Best Local Similarity 75.0%; Pred. No. 2.4;
 Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 RTKPEKCDKPRR 13
 | : |||||
 DB 110 RARQEKCDKPRR 121

RESULT 12
 AAY23943
 ID AAY23943 standard; peptide; 121 AA.
 XX
 AC AAY23943;
 XX
 DT 21-SEP-1999 (first entry)
 DE Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
 XX
 KM Vascular endothelial growth factor; VEGF; VEGF 121; monoclonal antibody.
 XX
 OS Homo sapiens.
 XX
 PN JP11178593-A.
 XX
 PD 06-JUL-1999.
 XX
 PF 24-DEC-1997; 97JP-0365972.
 XX
 PR 24-DEC-1997; 97JP-0365972.
 XX
 PA (FURE) FUJIREBIO KK.
 XX
 DR WPI, 1999-437318/37.
 XX
 PT New VEGF121-specific monoclonal antibody - useful for measuring
 PT levels of VEGF121
 XX
 PS Disclosure; Page 5; 6pp; Japanese.
 XX
 CC The present sequence represents vascular endothelial growth factor
 CC (VEGF) 121. The specification describes a monoclonal antibody which
 CC is specific to VEGF 121, and a hybridoma producing this antibody. The
 CC antibody is used in a method for measuring the amount of VEGF 121
 present in a sample.
 XX
 SQ Sequence 121 AA;
 Query Match 67.9%; Score 53; DB 20; Length 121;
 Best Local Similarity 75.0%; Pred. No. 2.4;
 Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 2 RTKPEKCDKPRR 13
 | : |||||
 DB 110 RARQEKCDKPRR 121

RESULT 13
 AAY08278
 ID AAY08278 standard; Protein; 121 AA.
 XX
 AC AAY08278;
 XX
 DT 14-JUL-1999 (first entry)
 DE Human growth factor protein fragment VEGF-A121.
 XX
 KM Growth factor; human; dimer; cysteine knot; cellular inclusion body;
 KM pharmaceutical.
 XX
 OS Homo sapiens.
 XX
 PN DE19748734-A1.
 XX
 PD 06-MAY-1999.
 XX

PF 05-NOV-1997; 97DE-1048734.
 XX
 PR 05-NOV-1997; 97DE-1048734.
 XX
 PA (GBFB) GES BIOTECHNOLOGISCHE FORSCHUNG MBH.
 XX
 PI Erdmann H, Kaerst U, Mueller C, Rinas U, Welch H;
 XX
 DR MPI, 1999-278785/24.
 XX
 PT Preparing active growth factor dimers from inclusion bodies in high
 PT yield
 PS Claim 14; Page 7; 14pp; German.
 XX
 CC This invention describes the novel preparation of biologically active
 CC dimers of recombinant human growth factors of the cysteine knot family
 CC starting from cellular inclusion bodies. Such dimers are useful in
 CC pharmaceutical compositions and the method provides yields of 31-39.7%,
 CC in examples, compared with about 10% for the conventional method (see
 CC Biochemistry, 28 (1989) 2956). AAY08278-Y08301 are human growth factor
 CC protein fragments used in the method of the invention.
 SQ Sequence 121 AA;
 XX
 Query Match 67.9%; Score 53; DB 20; Length 121;
 Best Local Similarity 75.0%; Pred. No. 2.4;
 Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 QY 2 RTKPEKCDKPRR 13
 | : |||||
 DB 110 RARQEKCDKPRR 121
 RESULT 14
 AAB50428
 ID AAB50428 standard; Protein; 121 AA.
 XX
 AC AAB50428;
 XX
 DT 13-MAR-2001 (first entry)
 XX
 DE Mature human vascular endothelial growth factor polypeptide.
 XX
 KW Human; vascular endothelial growth factor; VEGF; VEGF dimer;
 KW hypotensive; litholytic; nephrotropic; antiarteriosclerotic;
 KW antiinflammatory; angiogenesis; vascular remodelling; injury; wound;
 KW peripheral arterial disease; coronary artery disease; hypoxia;
 KW essential hypertension; microvascular angiopathy; hypercapnia;
 KW polycystic kidney disease; vascular endothelial cell repair;
 KW lung disease; kidney disease; inflammatory bowel disease.
 XX
 OS Homo sapiens.
 XX
 PN WO200071716-A2.
 XX
 PD 30-NOV-2000.
 XX
 PF 18-MAY-2000; 2000WO-US13636.
 XX
 PR 20-MAY-1999; 99US-0135312.
 PR 20-JAN-2000; 2000US-0177407.
 XX
 PA (SCIO-) SCIOS INC.
 XX
 PI Jue RA, Schejlenberger U, Stathis PA, Adriaenssens PI, Abraham JA;
 PI Baldwin PA, Pollitt NS;
 XX
 DR MPI; 2001-041064/05.
 DR N-PSDB; AAC90473.
 PT Vascular endothelial growth factor dimer, useful for treating essential
 PT hypertension, polycystic kidney diseases, microvascular angiopathy and

PT coronary artery disease, comprising two monomeric subunits -
 XX
 PS Claim 1; Fig 1; 61pp; English.
 XX
 CC The present sequence encodes a monomer of a vascular endothelial growth
 CC factor (VEGF) dimer. The dimer comprises a first and a second monomer,
 CC each comprising at least amino acids 11-116 of a defined 147 amino acid
 CC sequence, or a sequence having at least 90% identity to the defined
 CC sequence, and retaining a cysteine at or corresponding to position 116,
 CC which is disulphide-bonded to an additional extraneous cysteine. The
 CC VEGF dimer is useful for inducing angiogenesis and vascular remodelling;
 CC treating peripheral arterial disease, coronary artery disease, essential
 CC hypertension, microvascular angiopathy, and polycystic kidney disease,
 CC and repair of vascular endothelial cell layers. It is also useful for
 CC treating injuries, wounds, hypoxia, hypercapnia, pulmonary dysfunction,
 CC kidney diseases, diseases arising from disordered transport of solutes
 CC and fluids across the intestinal epithelium including inflammatory bowel
 CC disease, and disorders due to accumulation of ascites in the
 CC peritoneum.
 SQ Sequence 121 AA;
 XX
 Query Match 67.9%; Score 53; DB 22; Length 121;
 Best Local Similarity 75.0%; Pred. No. 2.4;
 Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 QY 2 RTKPEKCDKPRR 13
 | : |||||
 DB 110 RARQEKCDKPRR 121
 RESULT 15
 AAE32329
 ID AAE32329 standard; Protein; 121 AA.
 XX
 AC AAE32329;
 XX
 DT 24-MAR-2003 (first entry)
 XX
 DE Human vascular endothelial growth factor (VEGF) 121.
 XX
 KW Vascular endothelial growth factor; VEGF; angiogenesis; wound healing;
 KW bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer;
 KW lesion; injury; trauma; periodontal condition; protein therapy; human.
 XX
 OS Homo sapiens.
 XX
 PN WO200283851-A2.
 XX
 PD 24-OCT-2002.
 XX
 PF 10-APR-2002; 2002WO-US11406.
 XX
 PR 10-APR-2001; 2001US-0832355.
 XX
 PA (GENV-) GENVEC INC.
 XX
 PI Kovesdi I, Kessler PD;
 XX
 DR MPI; 2003-075536/07.
 DR N-PSDB; AAD49965.
 XX
 PT New fusion protein comprising a non-heparin-binding vascular
 PT endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide
 PT portion, useful for promoting angiogenesis and/or bone growth in
 PT mammals -
 XX
 PS Disclosure; Page 118; 191pp; English.
 XX
 CC The invention relates to a fusion protein comprising non-heparin binding
 CC vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF
 CC peptide portion useful for promoting angiogenesis and/or bone growth in
 CC mammalian host. The fusion protein is useful for promoting angiogenesis,

CC wound healing and bone growth. Compositions containing bone growth
 CC promoting fusion protein can be used to treat osteoporosis, rheumatoid
 CC or osteoarthritis, to improve poor bone healing, to promote implant
 CC integration and function of artificial joints and to facilitate bone
 CC reconstruction. They can also be used to treat e.g. ulcers, lesions,
 CC injuries, burns, trauma, periodontal conditions, lacerations and other
 CC conditions. The invention is also useful in protein therapy. The present
 CC sequence is human VEGF121 protein.

XX
 SQ Sequence 121 AA;

Query Match 67.9%; Score 53; DB 24; Length 121;
 Best Local Similarity 75.0%; Pred. No. 2.4;
 Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 2 RTKPEKCDKPRR 13
 : |||||
 Db 110 RAROEKCDKPRR 121

Search completed: January 30, 2004, 11:40:06
 Job time : 18.925 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:35:33 ; Search time 5.5333 Seconds
(without alignments)
99.405 Million cell updates/sec

Title: US-09-266-543-3

Perfect score: 78

Sequence: 1 CTKPKCKDKPRR 13

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-Processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	69	88.5	146	3	US-08-586-039B-33
2	69	88.5	146	4	US-09-699-769-33
3	53	67.9	121	6	5194596-19
4	53	67.9	121	6	5219739-20
5	53	67.9	147	3	US-08-807-992B-1
6	53	67.9	147	4	US-09-392-932-1
7	53	67.9	147	4	US-08-706-054A-4
8	53	67.9	147	4	US-09-574-708A-2
9	53	67.9	147	4	US-09-313-299-4
10	51.5	66.0	120	6	5194596-9
11	51.5	66.0	120	6	5219739-9
12	48	61.5	147	4	US-09-431-888-3
13	47	60.3	137	4	US-09-037-983C-17
14	44	56.4	168	4	US-09-252-991A-21174
15	44	52.6	704	4	US-09-252-991A-30631
16	40	51.3	12	3	US-08-742-243-70
17	40	51.3	192	4	US-09-252-991A-31607
18	40	51.3	306	4	US-09-252-991A-26699
19	40	51.3	588	1	US-08-391-615-5
20	39	50.0	19	3	US-08-807-992B-7
21	39	50.0	19	3	US-08-807-992B-13
22	39	50.0	19	3	US-08-807-992B-16
23	39	50.0	19	3	US-08-807-992B-30
24	39	50.0	133	4	US-09-252-991A-17914
25	39	50.0	136	4	US-09-037-983C-15
26	39	50.0	164	6	5194596-17
27	39	50.0	164	6	5219739-17

28	39	50.0	164	6	5219739-18	Patent No. 5219739
29	39	50.0	165	4	US-08-882-816-3	Sequence 3, Appl 1
30	39	50.0	165	4	US-08-802-052B-3	Sequence 3, Appl 1
31	39	50.0	165	6	5194596-18	Patent No. 5194596
32	39	50.0	165	6	5219739-19	Patent No. 5219739
33	39	50.0	165	4	US-09-252-991A-25842	Sequence 25842, A
34	39	50.0	189	1	US-08-469-427A-15	Sequence 20, Appl 1
35	39	50.0	190	2	US-08-569-063C-20	Sequence 10, Appl 1
36	39	50.0	190	4	US-08-586-039B-31	Sequence 31, Appl 1
37	39	50.0	190	4	US-09-699-769-31	Patent No. 5332671
38	39	50.0	190	6	5332671-3	Sequence 2, Appl 1
39	39	50.0	191	3	US-08-567-200A-2	Sequence 2, Appl 1
40	39	50.0	191	3	US-08-807-992B-2	Sequence 2, Appl 1
41	39	50.0	191	3	US-08-691-794-2	Sequence 2, Appl 1
42	39	50.0	191	3	US-08-795-430-56	Sequence 56, Appl 1
43	39	50.0	191	4	US-09-392-932-3	Sequence 3, Appl 1
44	39	50.0	191	4	US-09-355-700-56	Sequence 56, Appl 1
45	39	50.0	191	4	US-08-882-816-2	Sequence 2, Appl 1

ALIGNMENTS

RESULT 1
US-08-586-039B-33
; Sequence 33, Application US/08586039B
; Patent No. 6140073
GENERAL INFORMATION:
; APPLICANT: Bayne, Marvin L.
; APPLICANT: Thomas Jr., Kenneth A.
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C
; NUMBER OF SEQUENCES: 49
; SUBUNIT
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Metek & Co., Inc.
; STREET: 126 E. Lincoln Avenue
; CITY: Rahway
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07065-0900
COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/586,039B
; FILING DATE: 16-JAN-1996
CLASSIFICATION:
; APPLICATION NUMBER: 08/124,259
; FILING DATE: 20-SEP-1993
; APPLICATION NUMBER: 07/676,436
; FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
; NAME: Hand, J. Mark
; REGISTRATION NUMBER: 36,545
; REFERENCE/DOCKET NUMBER: 18361DA
TELECOMMUNICATION INFORMATION:
; TELEPHONE: (908) 594-3905
; TELEFAX: (908) 594-4720
; INFORMATION FOR SEQ ID NO: 33:
SEQUENCE CHARACTERISTICS:
; LENGTH: 146 amino acids
; TYPE: amino acid
STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-586-039B-33
Query Match 88.5%; Score 69; DB 3; Length 146;
Best Local Similarity 100.0%; Pred. No. 0.0027;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 RTKPEKCDKPRR 13
| | | | |
Db 135 RTKPEKCDKPRR 146

RESULT 2

US-09-699-769-33
; Sequence 33, Application US/09699769
; Patent No. 6569434

GENERAL INFORMATION:

APPLICANT: Bayne, Marvin L.
Thomas Jr., Kenneth A.

TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
C SUBUNIT

NUMBER OF SEQUENCES: 49

CORRESPONDENCE ADDRESS:

ADDRESSEE: Merck & Co., Inc.

STREET: 126 E. Lincoln Avenue

CITY: Rahway

STATE: New Jersey

COUNTRY: USA

ZIP: 07065-0900

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Microsoft Word 6

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/699,769

FILING DATE: 30-Oct-2000

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/586,039

FILING DATE: 16-JAN-1996

APPLICATION NUMBER: 08/124,259

FILING DATE: 20-SEP-1993

APPLICATION NUMBER: 07/676,436

FILING DATE: 28-MAR-1991

ATTORNEY/AGENT INFORMATION:

NAME: Hand, J. Mark

REGISTRATION NUMBER: 36,545

REFERENCE/DOCKET NUMBER: 18361DB

TELECOMMUNICATION INFORMATION:

TELEPHONE: (732) 594-3905

TELEFAX: (732) 594-4720

INFORMATION FOR SEQ ID NO: 33:

SEQUENCE CHARACTERISTICS:

LENGTH: 146 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

SEQUENCE DESCRIPTION: SEQ ID NO: 33:

US-09-699-769-33

Query Match 88.5%; Score 69; DB 4; Length 146;
Best Local Similarity 100.0%; Pred. No. 0.0027;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 RTKPEKCDKPRR 13
| | | | |
Db 135 RTKPEKCDKPRR 146

RESULT 3

5194596-19

Patent No. 5194596

APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN

C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL

GROWTH FACTOR

NUMBER OF SEQUENCES: 32

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/450,883

FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 387,545

FILING DATE: 27-JUL-1989

SEQ ID NO: 19;

LENGTH: 121

Query Match 67.9%; Score 53; DB 6; Length 121;
Best Local Similarity 75.0%; Pred. No. 0.49;

Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 2 RTKPEKCDKPRR 13
| | | | |
Db 110 RARQEKCDKPRR 121

RESULT 4

5219739-20

Patent No. 5219739

APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,

JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVESG120 AND

HVEG121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN

VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVESG120 AND HVEG121

NUMBER OF SEQUENCES: 40

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/559,041

FILING DATE: 27-JUL-1990

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 450,883

FILING DATE: 14-DEC-1989

APPLICATION NUMBER: 387,545

FILING DATE: 27-JUL-1989

SEQ ID NO: 20;

LENGTH: 121

Query Match 67.9%; Score 53; DB 6; Length 121;
Best Local Similarity 75.0%; Pred. No. 0.49;

Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 2 RTKPEKCDKPRR 13
| | | | |
Db 110 RARQEKCDKPRR 121

RESULT 5

US-08-807-992B-1

Sequence 1, Application US/08807992B

Patent No. 6022541

GENERAL INFORMATION:

APPLICANT: Senger, Donald R

Harold R

TITLE OF INVENTION: Immunological preparation for concurrent

specific binding to spatially exposed regions of vascular

permeability factor bound in-vivo to a tumor associated blood

NUMBER OF SEQUENCES: 31

CORRESPONDENCE ADDRESS:

ADDRESSEE: David Prashker, Esq.

STREET: P.O. Box 5387

CITY: Magnolia

STATE: Massachusetts

COUNTRY: USA

ZIP: 01930

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage

COMPUTER: IBM PS/1

OPERATING SYSTEM: MS DOS

SOFTWARE: WordPerfect version 5.1

RESULT 7
 US-08-706-054A-4
 : Sequence 4, Application US/08706054A
 : Patent No. 6451764
 :
 : GENERAL INFORMATION:
 :
 : APPLICANT: Lee, James
 :
 : Wood, William I.
 :
 : TITLE OF INVENTION: VEGF-Related Protein
 :
 : NUMBER OF SEQUENCES: 12
 :
 : CORRESPONDENCE ADDRESS:
 :
 : ADDRESSEE: Genentech, Inc.
 :
 : STREET: 460 Point San Bruno Blvd
 :
 : CITY: South San Francisco
 :
 : STATE: California
 :
 : COUNTRY: USA

RESULT 9
US-09-313-299-4
; Sequence 4, Application US/09313299E
; Patent No. 6576608

```

; GENERAL INFORMATION:
; APPLICANT: Lee, James
; TITLE OF INVENTION: VEGF-RELATED PROTEIN
; FILE REFERENCE: P0963R1D1
; CURRENT APPLICATION NUMBER: US/09/313,299B
; CURRENT FILING DATE: 1999-05-17
; EARLIER APPLICATION NUMBER: US 08/706,054
; EARLIER FILING DATE: 1996-08-30
; EARLIER APPLICATION NUMBER: US 60/003,491
; NUMBER OF SEQ ID NOS: 12
; SEQ ID NO 4
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Human
; FEATURE:
; NAME/KEY: Human
; LOCATION: 1-147
; OTHER INFORMATION: Sequence source: VEGF-121
; Patent No. 6576608
; US-09-313-299-4

Query Match          67.9%; Score 53; DB 4; Length 147;
Best Local Similarity 75.0%; Pred. No. 0.59;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 2 RTKPEKCDKPRR 13
Db 136 RARQEKCDKPRR 147

RESULT 10
5194596-9
; Patent No. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR
; NUMBER OF SEQUENCES: 32
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/450,883
; FILING DATE: 14-DEC-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO: 9
; LENGTH: 120
; 5194596-9

Query Match          66.0%; Score 51.5; DB 6; Length 120;
Best Local Similarity 61.1%; Pred. No. 0.81;
Matches 11; Conservative 0; Mismatches 2; Indels 5; Gaps 1;

Qy 1 CRTK-----PEKCDKPRR 13
Db 103 CRPKDKARQEKCDKPRR 120

RESULT 11
5219739-9
; Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGEF120 AND
; BVGEF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGEF120 AND BVGEF121
; NUMBER OF SEQUENCES: 40
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/559,041
; FILING DATE: 27-JUL-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 450,883

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; FILING DATE: 14-DEC-1989
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO: 9
; LENGTH: 120
; 5219739-9

Query Match          66.0%; Score 51.5; DB 6; Length 120;
Best Local Similarity 61.1%; Pred. No. 0.81;
Matches 11; Conservative 0; Mismatches 2; Indels 5; Gaps 1;

Qy 1 CRTK-----PEKCDKPRR 13
Db 103 CRPKDKARQEKCDKPRR 120

RESULT 12
US-09-431-888-3
; Sequence 3, Application US/09431888A
; Patent No. 6541008
; GENERAL INFORMATION:
; APPLICANT: Wise, Lynn M
; APPLICANT: Mercer, Andrew A
; APPLICANT: Savory, Ioreen J
; APPLICANT: Fleming, Stephen B
; APPLICANT: Stacker, Stephen
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-LIKE PROTEIN FROM ORF
; TITLE OF INVENTION: VIRUS NZ2 BINDS AND ACTIVATES MAMMALIAN VEGF
; FILE REFERENCE: RECEPTOR-2, AND USES THEREOF
; CURRENT APPLICATION NUMBER: US/09/431,888A
; CURRENT FILING DATE: 1999-11-02
; EARLIER APPLICATION NUMBER: 60/106,689
; EARLIER FILING DATE: 1998-11-02
; EARLIER APPLICATION NUMBER: 60/106,800
; EARLIER FILING DATE: 1998-11-03
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 3
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo sapiens
; US-09-431-888-3

Query Match          61.5%; Score 48; DB 4; Length 147;
Best Local Similarity 66.7%; Pred. No. 3.2;
Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 2 RTKPEKCDKPRR 13
Db 136 RARQEKCDKPRR 147

RESULT 13
US-09-037-983C-17
; Sequence 17, Application US/09037983C
; Patent No. 6583276
; GENERAL INFORMATION:
; APPLICANT: Newfeld, Gera
; APPLICANT: Keshet, Eli
; APPLICANT: Vlodayevy, Israel
; APPLICANT: Poltorak, Zoya
; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dise
; FILE REFERENCE: 000274-00009
; CURRENT APPLICATION NUMBER: US/09/037,983C
; CURRENT FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/025,537
; PRIOR FILING DATE: 1996-09-06
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 17
; LENGTH: 137

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TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-17

Query Match 60.3%; Score 47; DB 4; Length 137;
Best Local Similarity 66.7%; Pred. No. 4.2;
Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 RTPEKCDKRR 13
DB 126 KRRKKCDKRR 137

Search completed: January 30, 2004, 11:47:51
Job time : 6.5333 secs

RESULT 14
US-09-252-991A-21174
Sequence 21174, Application US/09252991A
Patent No. 6551795

GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 21174
LENGTH: 168
TYPE: PRT
ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-21174

Query Match 56.4%; Score 44; DB 4; Length 168;
Best Local Similarity 53.8%; Pred. No. 14;
Matches 7; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 1 CRTPEKCDKRR 13
DB 67 CRSRPSACAKRR 79

RESULT 15
US-09-252-991A-30631
Sequence 30631, Application US/09252991A
Patent No. 6551795
GENERAL INFORMATION:
APPLICANT: Marc J. Rubenfield et al.
TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO PSEUDOMONAS
FILE REFERENCE: 107196.136
CURRENT APPLICATION NUMBER: US/09/252,991A
CURRENT FILING DATE: 1999-02-18
PRIOR APPLICATION NUMBER: US 60/074,788
PRIOR FILING DATE: 1998-02-18
PRIOR APPLICATION NUMBER: US 60/094,190
PRIOR FILING DATE: 1998-07-27
NUMBER OF SEQ ID NOS: 33142
SEQ ID NO 30631
LENGTH: 704
TYPE: PRT
ORGANISM: Pseudomonas aeruginosa
US-09-252-991A-30631

Query Match 52.6%; Score 41; DB 4; Length 704;
Best Local Similarity 63.6%; Pred. No. 1.5e+02;
Matches 7; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 CRTPEKCDKRR 11
DB 4 CRTAPICRKP 14

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:44:49 ; Search time 12.8667 Seconds
(without alignments)
209.978 Million cell updates/sec

Title: US-09-266-543-3
Perfect score: 78
Sequence: 1 CRTKPEKCDKPPR 13

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 789580 seqs, 207824079 residues

Total number of hits satisfying chosen parameters: 789580

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Published Applications AA.*
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8: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep.*
9: /cgn2_6/ptodata/2/pubpaa/US09A_PUBCOMB.pep.*
10: /cgn2_6/ptodata/2/pubpaa/US09B_PUBCOMB.pep.*
11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep.*
12: /cgn2_6/ptodata/2/pubpaa/US09D_PUBCOMB.pep.*
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18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	69	88.5	12	US-10-156-932-73	Sequence 73, Appl
2	69	88.5	13	US-10-156-932-81	Sequence 81, Appl
3	67.9	105	9	US-09-925-299-927	Sequence 927, App
4	53	67.9	105	US-09-925-299-927	Sequence 927, App
5	53	67.9	121	US-09-832-355A-1	Sequence 1, Appl
6	53	67.9	147	US-10-346-802-4	Sequence 4, Appl
7	53	67.9	147	US-10-392-931-2	Sequence 2, Appl
8	53	67.9	147	US-10-418-529-2	Sequence 2, Appl
9	53	67.9	147	US-10-083-817-1	Sequence 1, Appl
10	53	67.9	147	US-10-268-447-2	Sequence 2, Appl
11	53	67.9	212	US-09-832-355A-84	Sequence 84, Appl
12	53	67.9	222	US-09-832-355A-79	Sequence 79, Appl
13	53	67.9	339	US-09-832-355A-97	Sequence 97, Appl
14	53	67.9	367	US-09-832-355A-94	Sequence 94, Appl
15	53	67.9	367	US-09-832-355A-104	Sequence 104, App

16	53	67.9	368	11	US-09-832-355A-74	Sequence 74, Appl
17	53	67.9	371	11	US-09-832-355A-89	Sequence 89, Appl
18	53	67.9	371	11	US-09-832-355A-103	Sequence 103, Appl
19	53	67.9	462	11	US-09-832-355A-100	Sequence 100, Appl
20	53	67.9	630	12	US-10-053-637-24	Sequence 24, Appl
21	53	67.9	648	11	US-09-832-355A-126	Sequence 126, Appl
22	53	67.9	650	12	US-10-053-637-28	Sequence 28, Appl
23	48	61.5	11	11	US-09-832-355A-8	Sequence 8, Appl
24	48	61.5	154	11	US-09-832-355A-62	Sequence 62, Appl
25	48	61.5	353	15	US-10-186-793A-57	Sequence 57, Appl
26	47	60.3	150	11	US-09-832-355A-61	Sequence 61, Appl
27	44	56.4	13	12	US-10-263-162-19	Sequence 19, Appl
28	44	56.4	14	12	US-10-263-162-14	Sequence 14, Appl
29	44	56.4	15	12	US-10-263-162-16	Sequence 16, Appl
30	44	56.4	15	12	US-10-263-162-51	Sequence 51, Appl
31	44	56.4	17	12	US-10-263-162-50	Sequence 50, Appl
32	44	56.4	18	12	US-10-263-162-15	Sequence 15, Appl
33	44	56.4	19	12	US-10-263-162-13	Sequence 13, Appl
34	44	56.4	20	12	US-10-263-162-49	Sequence 49, Appl
35	44	56.4	22	12	US-10-263-162-4	Sequence 4, Appl
36	43	55.1	20	12	US-10-263-162-12	Sequence 12, Appl
37	43	55.1	154	11	US-09-832-355A-59	Sequence 59, Appl
38	43	55.1	162	11	US-09-832-355A-60	Sequence 60, Appl
39	42	53.8	89	9	US-09-925-301-1117	Sequence 1117, Ap
40	40	51.3	255	12	US-10-108-160A-4175	Sequence 4175, Ap
41	40	51.3	2906	12	US-10-015-115-60	Sequence 60, Appl
42	40	51.3	2911	12	US-10-295-027-162	Sequence 162, Appl
43	39	50.0	27	12	US-10-318-302-3	Sequence 3, Appl
44	39	50.0	55	12	US-10-318-302-2	Sequence 2, Appl
45	39	50.0	165	12	US-10-318-302-1	Sequence 1, Appl

ALIGNMENTS

RESULT 1
US-10-156-932-73
; Sequence 73, Application US/10156932
; Publication No. US20030069181A1
; GENERAL INFORMATION:
; APPLICANT: Wong, Albert J.
; TITLE OF INVENTION: Alternative Splice Forms of Proteins as
; FILE OF INVENTION: Basis for Multiple Therapeutic Modalities
; FILE REFERENCE: 8321-81
; CURRENT APPLICATION NUMBER: US/10/156,932
; CURRENT FILING DATE: 2002-05-28
; PRIOR APPLICATION NUMBER: US 60/293,791
; PRIOR FILING DATE: 2001-05-25
; NUMBER OF SEQ ID NOS: 82
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 73
; LENGTH: 12
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: VEGF alt splice #1
US-10-156-932-73

Query Match 88.5%; Score 69; DB 15; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.00052;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 RTKPEKCDKPPR 13
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Db 1 RTKPEKCDKPPR 12

RESULT 2
US-10-156-932-81
; Sequence 81, Application US/10156932
; Publication No. US20030069181A1
; GENERAL INFORMATION:
; APPLICANT: Wong, Albert J.

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? TITLE OF INVENTION: Alternative Splice Forms of Proteins as
? TITLE OF INVENTION: Basis for Multiple Therapeutic Modalities
? FILE REFERENCE: 9321-81
? CURRENT APPLICATION NUMBER: US/10/156,932
? CURRENT FILING DATE: 2002-05-28
? PRIOR APPLICATION NUMBER: US 60/293,791
? PRIOR FILING DATE: 2001-05-25
? NUMBER OF SEQ ID NOS: 82
? SOFTWARE: FastSeq for Windows Version 4.0
? SEQ ID NO 81
? LENGTH: 13
? TYPE: PRT
? ORGANISM: Artificial Sequence
? FEATURE:
? OTHER INFORMATION: VEGF alt splice #1 peptide + C
US-10-156-932-81

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Query Match	88.5%	Score 69;	DB 15;	Length 13;
Best Local Similarity	100.0%	Pred. No. 0.00056;		
Matches 12;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0

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QY      2 RTKPEKCDKPRR 13
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Db      1 RTKPEKCDKPRR 12

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RESULT 3
US-09-925-299-927
; Sequence 927, Application US/09925299

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; GENERAL INFORMATION:
; APPLICANT: Rosen et al.
; TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies

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1 CURRENT APPLICATION NUMBER: US/09/925,229
2
3 CURRENT FILING DATE: 2001-08-10
4
5 PRIOR APPLICATION NUMBER: PCT/US00/05883
6
7 PRIOR FILING DATE: 2000-03-08
8
9 PRIOR APPLICATION NUMBER: 60/124,270
10
11 PRIOR FILING DATE: 1999-03-12
12
13 NUMBER OF SEQ ID NOS: 1556
14
15 SOFTWARE: PatentIn Ver. 2.0

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; LENGTH: 105
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-925-299-927

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Query Match	67.9%	Score 53	DB 9	Length 105
Best Local Similarity	75.0%	Pred. No. 1		
Matches 9; Conservative		1; Mismatches	2; Indels	0; Gaps 0

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QY      2 RTKPEKCDKPRR 13
          | : |||||
Db      94 PARQEKCDKPRR 105
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RESULT 4
US-09-925-299-927
; Sequence 927, Application US/09925299
; Publication No. US20030040617A9
; GENERAL INFORMATION:

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1 APPLICANT: Rosen et al.
2
3 TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
4
5 FILE REFERENCE: PA102
6
7 CURRENT APPLICATION NUMBER: US/09/925,299
8
9 PRIOR FILING DATE: 2001-08-10
10
11 PRIOR APPLICATION NUMBER: PCT/US00/05883
12
13 PRIOR FILING DATE: 2000-03-08
14
15 PRIOR APPLICATION NUMBER: 60/124,270
16
17 PRIOR FILING DATE: 1999-03-12
18
19 NUMBER OF SEQ ID NOS: 1556
20
21 SOFTWARE: PatentIn Ver. 2.0

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; SEQ ID NO 927
; LENGTH: 105
; TYPE: prt
; ORGANISM: Homo sapiens
US-09-925-299-927

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Query Match	67.9%	Score 53;	DB 11;	Length 105;
Best Local Similarity	75.0%	Pred. No. 1;		
Matches	9;	Conservative	1;	Mismatches 2;
			Indels	0;
			Gaps	0;

QY	2	RTKPEKCDKPRR	13
Db <td>94 <td>PARQEKCDKPRR <td>105</td> </td></td>	94 <td>PARQEKCDKPRR <td>105</td> </td>	PARQEKCDKPRR <td>105</td>	105

RESULT 5
US-09-832-355A-1
; Sequence 1, Application US/09832355A

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; GENERAL INFORMATION:
;
; APPLICANT: Kovesdi, Imre
; APPLICANT: Kessler, Paul
;

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1 TITLE OF INVENTION: VEGF FUSION PROTEINS
2
3 FILE REFERENCE: 205654
4
5 CURRENT APPLICATION NUMBER: US/09/832,355A
6
7 CURRENT FILING DATE: 2001-04-10
8
9 NUMBER OF SEQ ID NOS: 126
10
11 SOFTWARE: PatentIn version 3.0

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; LENGTH: 121
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-832-355A-1

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Query Match	67.9%	Score 53;	DB 11;	Length 121;
Best Local Similarity	75.0%	Pred. No. 1.2;		
Matches	9;	Conservative	1;	Mismatches 2;
			Indels	0;
			Gaps	0

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Qy      2 RTKPEKCDKPRR 13
          | : |||||
Db      110 PARQEKCDKPRR 121
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RESULT 6
US-10-346-802-4
; Sequence 4, Application US/10346802
; Publication No. US20030166873A1

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; APPLICANT: Lee, James
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: VEGF-RELATED PROTEIN
; FILE REFERENCE: P0963R1D1

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? CURRENT APPLICATION NUMBER: US/10/346,802
? CURRENT FILING DATE: 2003-01-17
? PRIOR APPLICATION NUMBER: US/09/313,299B
? PRIOR FILING DATE: 1999-05-17
? PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 08/706,054
? PRIOR FILING DATE: EARLIER FILING DATE: 1996-08-30
? PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/003,491
? PRIOR FILING DATE: EARLIER FILING DATE: 1995-09-08
? NUMBER OF SEQ ID NOS: 12
? SEQ ID NO 4

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; LENGTH: 147
; TYPE: PRT
; ORGANISM: Human

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; FEATURE:
; NAME/KEY: Human
; LOCATION: 1-147
; OTHER INFORMATION: Sequence source: VEGE-1211

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Query Match	67.9%	Score 53;	DB 12;	Length 147;
Best Local Similarity	75.0%;	Pred. No. 1.4;		

Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 2 RTPEKCDKPRR 13
| : |||||
Db 136 RARQEKCDKPRR 147

RESULT 7
US-10-392-931-2
; Sequence 2, Application US/10392931
; Publication No. US2003019463A1
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; APPLICANT: Scios, Inc.
; APPLICANT: University of Washington
; TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
; FILE REFERENCE: SCIOS.003A
; CURRENT APPLICATION NUMBER: US/10/392,931
; PRIOR FILING DATE: 1999-09-09
; PRIOR APPLICATION NUMBER: 60/099694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 60/126406
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/126615
; PRIOR FILING DATE: 1999-03-27
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-392-931-2

Query Match 67.9%; Score 53; DB 12; Length 147;
Best Local Similarity 75.0%; Pred. No. 1.4;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 2 RTPEKCDKPRR 13
| : |||||
Db 136 RARQEKCDKPRR 147

RESULT 8
US-10-418-529-2
; Sequence 2, Application US/10418529
; Publication No. US20030220262A1
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; APPLICANT: Scios, Inc.
; APPLICANT: University of Washington
; TITLE OF INVENTION: TREATMENT OF ECLAMPSIA AND PREECLAMPSIA
; FILE REFERENCE: SCIOS.003C1
; CURRENT APPLICATION NUMBER: US/10/418,529
; PRIOR FILING DATE: 2003-04-16
; PRIOR APPLICATION NUMBER: 60/099694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 60/126406
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/126615
; PRIOR FILING DATE: 1999-03-27
; PRIOR APPLICATION NUMBER: 09/392931
; PRIOR FILING DATE: 1999-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-418-529-2

Query Match 67.9%; Score 53; DB 12; Length 147;

Best Local Similarity 75.0%; Pred. No. 1.4;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 2 RTPEKCDKPRR 13
| : |||||
Db 136 RARQEKCDKPRR 147

RESULT 9
US-10-083-817-1
; Sequence 1, Application US/10083817
; Publication No. US20020193288A1
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; APPLICANT: University of Washington
; TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
; FILE REFERENCE: SCIOS.002C1
; CURRENT APPLICATION NUMBER: US/10/083,817
; PRIOR FILING DATE: 2002-02-26
; PRIOR APPLICATION NUMBER: 60/099,694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 09/392,932
; PRIOR FILING DATE: 1999-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo Sapien
US-10-083-817-1

Query Match 67.9%; Score 53; DB 14; Length 147;
Best Local Similarity 75.0%; Pred. No. 1.4;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 2 RTPEKCDKPRR 13
| : |||||
Db 136 RARQEKCDKPRR 147

RESULT 10
US-10-268-447-2
; Sequence 2, Application US/10268447
; Publication No. US20030096754A1
; GENERAL INFORMATION:
; APPLICANT: N. Stephen Pollitt
; APPLICANT: Judith A. Abraham
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR
; FILE REFERENCE: SCIOS.004DV1
; CURRENT APPLICATION NUMBER: US/10/268,447
; PRIOR FILING DATE: 2002-10-10
; PRIOR APPLICATION NUMBER: 60/135,312
; PRIOR FILING DATE: 1999-05-20
; PRIOR APPLICATION NUMBER: 09/574,708
; PRIOR FILING DATE: 2000-05-18
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-268-447-2

Query Match 67.9%; Score 53; DB 15; Length 147;
Best Local Similarity 75.0%; Pred. No. 1.4;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 2 RTPEKCDKPRR 13
| : |||||
Db 136 RARQEKCDKPRR 147

RESULT 11
US-09-832-355A-84
; Sequence 84, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kovesdi, Imre
; APPLICANT: Keszler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 84
; LENGTH: 212
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; NAME/KEY: misc.feature
; LOCATION: (1..7)
; OTHER INFORMATION: Synthetic
US-09-832-355A-84

Query Match 67.9%; Score 53; DB 11; Length 212;
Best Local Similarity 75.0%; Pred. No. 2;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 2 RTKPEKCDKPRR 13
| : |||||
DB 136 RARQEKCDKPRR 147

RESULT 12
US-09-832-355A-79
; Sequence 79, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kovesdi, Imre
; APPLICANT: Keszler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 79
; LENGTH: 222
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; NAME/KEY: misc.feature
; LOCATION: (1..7)
; OTHER INFORMATION: Synthetic
US-09-832-355A-79

Query Match 67.9%; Score 53; DB 11; Length 222;
Best Local Similarity 75.0%; Pred. No. 2.1;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 2 RTKPEKCDKPRR 13
| : |||||
DB 136 RARQEKCDKPRR 147

RESULT 13
US-09-832-355A-97
; Sequence 97, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kovesdi, Imre
; APPLICANT: Keszler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS

; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 97
; LENGTH: 339
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; NAME/KEY: misc.feature
; LOCATION: (1..7)
; OTHER INFORMATION: Synthetic
US-09-832-355A-97

Query Match 67.9%; Score 53; DB 11; Length 339;
Best Local Similarity 75.0%; Pred. No. 3.1;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 2 RTKPEKCDKPRR 13
| : |||||
DB 136 RARQEKCDKPRR 147

RESULT 14
US-09-832-355A-94
; Sequence 94, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kovesdi, Imre
; APPLICANT: Keszler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 94
; LENGTH: 367
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; NAME/KEY: misc.feature
; LOCATION: (1..7)
; OTHER INFORMATION: Synthetic
US-09-832-355A-94

Query Match 67.9%; Score 53; DB 11; Length 367;
Best Local Similarity 75.0%; Pred. No. 3.3;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 2 RTKPEKCDKPRR 13
| : |||||
DB 136 RARQEKCDKPRR 147

RESULT 15
US-09-832-355A-104
; Sequence 104, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kovesdi, Imre
; APPLICANT: Keszler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 104
; LENGTH: 367
; TYPE: PRT
; ORGANISM: Artificial sequence


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; FEATURE:
; NAME/KEY: misc.feature
; LOCATION: ().T)
; OTHER INFORMATION: Synthetic
US-09-832-355A-104

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Query Match          67.9%; Score 53; DB 11; Length 367;
Best Local Similarity 75.0%; Pred. No. 3.3;
Matches 9; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

```

```

QY 2 RTKPEKCDKPRR 13
   | : |||||
Db 136 RAROEKCDKPRR 147

```

```

Search completed: January 30, 2004, 12:15:01
Job time : 13.9917 secs

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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:34:23 / Search time 5.6 Seconds
(without alignments)
223.249 Million cell updates/sec

Title: US-09-266-543-3
Perfect score: 78
Sequence: 1 CRTKPKCDKPRR 13

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :
1: p1r1:*
2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	51.5	66.0	120	A33787	vascular endotheli
2	51.5	66.0	146	S57956	ovine vascular end
3	42	53.8	72	F97642	hypothetical prote
4	42	53.8	227	AH2123	hypothetical prote
5	41	52.6	139	T09850	albumin 2S storage
6	41	52.6	139	T09878	albumin 2S storage
7	41	52.6	825	A26983	regulatory protein
8	41	52.6	1080	A71485	probable ppp2-tran
9	40	51.3	216	T12727	hypothetical prote
10	40	51.3	297	BVECLT	bacteriophage T4 1
11	40	51.3	403	C96757	hypothetical prote
12	40	51.3	526	TS1372	hypothetical prote
13	40	51.3	590	TVPRDS	protein-tyrosine k
14	40	51.3	636	I46889	gene NK10 protein
15	40	51.3	2326	B47447	calcium channel pr
16	40	51.3	2907	A57278	fibrillin-2 precur
17	40	51.3	2918	A54105	fibrillin-2 precur
18	39	50.0	190	S52130	vascular endotheli
19	39	50.0	190	B40080	vascular endotheli
20	39	50.0	190	B44881	vascular endotheli
21	39	50.0	190	A43587	glutamate-derived vas
22	39	50.0	214	A44881	vascular endotheli
23	39	50.0	232	A41551	vascular endotheli
24	39	50.0	442	T01731	hypothetical prote
25	39	50.0	559	B44265	ENL (translocation
26	39	50.0	662	T23757	hypothetical prote
27	39	50.0	1124	T30340	derma adenosine de
28	39	50.0	1296	T16859	hypothetical prote
29	39	50.0	1391	T20406	hypothetical prote

30	39	50.0	1502	1	RGBYH1	CYCL1/CYP3 transcri
31	38.5	49.4	285	2	G85016	probable myb-relat
32	38.5	49.4	371	2	AF3227	acrosiophine synth
33	38	48.7	236	2	AA0143	placental lactogen
34	38	48.7	285	2	UT0961	glutathione synth
35	38	48.7	325	2	AH1821	protein-export mem
36	38	48.7	475	2	T23793	hypothetical prote
37	38	48.7	477	2	T32938	hypothetical prote
38	38	48.7	512	2	T38705	glutathione synth
39	38	48.7	498	2	T37819	probable zinc meta
40	38	48.7	533	2	T10216	hypothetical prote
41	38	48.7	601	2	A27020	DIR-induced presen
42	38	48.7	622	2	E69006	glutamate synthase
43	38	48.7	709	2	T29692	hypothetical prote
44	38	48.7	775	2	S69515	replication initia
45	38	48.7	884	2	A10424	translation initia

ALIGNMENTS

```

RESULT 1
A33787
vascular endothelial growth factor (version 1) - bovine
C:Species: Bos primigenius taurus (cattle)
C>Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C:Accession: A33787
R:Riescher, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A:Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
A:Reference number: A33787; MUID:90121225; PMID:2610687
A:Accession: A33787
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-120 <TIS>
A:Cross-references: GB:M33750; NID:G163810; PIDN:AAA30805.1; PID:G163811
C:Keywords: alternative splicing

Query Match
Best Local Similarity 66.0%; Score 51.5; DB 2; Length 120;
Matches 11; Conservative 0; Mismatches 2; Indels 5; Gaps 1;

Db 103 CRPKDXARQEKCDKPRR 120

RESULT 2
S57956
ovine vascular endothelial growth factor - sheep
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C>Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
R:Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.
submitted to the EMBL Data Library, July 1995
A:Reference number: S57956
A:Accession: S57956
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-146 <RED>
A:Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351

Query Match
Best Local Similarity 66.0%; Score 51.5; DB 2; Length 146;
Matches 11; Conservative 0; Mismatches 2; Indels 5; Gaps 1;

Db 129 CRPKDXARQEKCDKPRR 146

RESULT 3
F97642

```

hypothetical protein AGR_C4274 [imported] - Agrobacterium tumefaciens (strain C58, Cere
 C:Species: Agrobacterium tumefaciens
 C:Date: 30-Sep-2001 #sequence_revision 30-Sep-2001 #text_change 18-Nov-2002
 C:Accession: F97642
 R:Goodner, B.; Hinkle, G.; Gattung, S.; Miller, N.; Blanchard, M.; Qurollo, B.; Goldman,
 A.; Liu, F.; Wollm, C.; Allinger, M.; Doughly, D.; Scott, C.; Lappas, C.; Markez, B.;
 Science 294, 2323-2328, 2001
 A:Title: Genome Sequence of the Plant Pathogen and Biotechnology Agent Agrobacterium tum
 A:Reference number: A97359; MUID:21608551; PMID:11743194
 A:Accession: F97642
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-72 <RUR>
 A:Cross-references: GB:AE07869; PIDN:AAK8095.1; PID:g15157525; GSPDB:GN00169
 C:Genetics:
 A:Gene: AGR_C4274
 A:Map position: circular chromosome

Query Match 53.8%; Score 42; DB 2; Length 72;
 Best Local Similarity 53.8%; Pred. No. 11;
 Matches 7; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Qy 1 CRTPEKCDKPRR 13
 Db 53 CGTKPRPCDRLRR 65

RESULT 4
 AH2123
 hypothetical protein alr2543 [imported] - Nostoc sp. (strain PCC 7120)
 C:Species: Nostoc sp. PCC 7120
 A:Note: Nostoc sp. strain PCC 7120 is a synonym of Anabaena sp. strain PCC 7120
 C:Date: 14-Dec-2001 #sequence_revision 14-Dec-2001 #text_change 09-Dec-2002
 C:Accession: AH2123
 R:Kaneko, T.; Nakamura, Y.; Wolk, C.P.; Kuritz, T.; Saseguro, S.; Matanabe, A.; Itiguchi,
 Nakazaki, N.; Shimp, S.; Sugimoto, M.; Takazawa, M.; Yamada, M.; Yasuda, M.; Tabata, S.
 DNA Res. 8, 205-213, 2001
 A:Title: Complete Genomic Sequence of the Filamentous Nitrogen-fixing Cyanobacterium Ana
 A:Reference number: AH1807; MUID:21595285; PMID:11759840
 A:Accession: AH2123
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-227 <KUR>
 A:Cross-references: GB:BA000019; PIDN:BAW74242.1; PID:g17131635; GSPDB:GN00179
 A:Experimental source: strain PCC 7120
 C:Genetics:
 A:Gene: alr2543
 C:Superfamily: Synecocystis hypothetical protein slr0748

Query Match 53.8%; Score 42; DB 2; Length 227;
 Best Local Similarity 58.3%; Pred. No. 29;
 Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

Qy 2 RTKPEKCDKPRR 13
 Db 210 RLPRDROKPRR 221

RESULT 5
 T09850
 albumin 2S storage protein precursor - upland cotton
 C:Species: Gossypium hirsutum (upland cotton)
 C:Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 16-Jul-1999
 C:Accession: T09850
 R:Galau, G.A.; Wang, H.Y.C.; Hughes, D.W.
 submitted to the EMBL Data Library, January 1992
 A:Description: Cotton Mats (Cl64) gene and cDNAs encoding a methionine-rich 2S albumin a
 A:Reference number: Z16866
 A:Accession: T09850
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: mRNA
 A:Residues: 1-139 <GAL>
 A:Cross-references: EMBL:M83301; NID:g167310; PID:g167311

C:Genetics:
 A:Gene: Mats-D
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-139/Product: albumin 2S storage protein #status predicted <MAT>

Query Match 52.6%; Score 41; DB 2; Length 139;
 Best Local Similarity 46.2%; Pred. No. 28;
 Matches 6; Conservative 2; Mismatches 5; Indels 0; Gaps 0;

Qy 1 CRTPEKCDKPRR 13
 Db 124 CEMPEGRCDTPSR 136

RESULT 6
 T09878
 albumin 2S storage protein precursor Mats-A - upland cotton
 C:Species: Gossypium hirsutum (upland cotton)
 C:Date: 16-Jul-1999 #sequence_revision 16-Jul-1999 #text_change 29-Oct-1999
 C:Accession: T09878
 R:Galau, G.A.; Wang, H.Y.C.; Hughes, D.W.
 submitted to the EMBL Data Library, January 1992
 A:Description: Cotton Mats-A (Cl64) gene and Mats-D cDNAs encoding methionine-rich 2S al
 A:Reference number: Z16893
 A:Accession: T09878
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-139 <GAL>
 A:Cross-references: EMBL:M86213; NID:g167358; PID:g167359
 C:Genetics:
 A:Gene: Mats-A
 C:Keywords: storage protein
 F:1-20/Domain: signal sequence #status predicted <SIG>
 F:21-139/Product: albumin 2S storage protein Mats-A #status predicted <MAT>

Query Match 52.6%; Score 41; DB 2; Length 139;
 Best Local Similarity 46.2%; Pred. No. 28;
 Matches 6; Conservative 2; Mismatches 5; Indels 0; Gaps 0;

Qy 1 CRTPEKCDKPRR 13
 Db 124 CEMPEGRCDTPSR 136

RESULT 7
 A26983
 regulatory protein QUTA - Emerizella nidulans
 C:Species: Emerizella nidulans, Aspergillus nidulans
 C:Date: 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 21-Jul-2000
 C:Accession: A26983
 R:Berri, R.K.; Whittington, H.; Roberts, C.F.; Hawkins, A.R.
 Nucleic Acids Res. 15, 7991-8001, 1987
 A:Title: Isolation and characterization of the positively acting regulatory gene QUTA fr
 A:Reference number: A26983; MUID:88040423; PMID:3313276
 A:Accession: A26983
 A:Molecule type: DNA
 A:Residues: 1-825 <BBR>
 A:Cross-references: GB:X06252; NID:g2396; PIDN:CAA9594.1; PID:g2397
 C:Genetics:
 A:Gene: QUTA
 C:Superfamily: unassigned GAL4-type zinc cluster proteins; GAL4 zinc binuclear cluster h
 C:Keywords: DNA binding; nucleus; transcription regulation
 F:44-81/Domain: GAL4 zinc binuclear cluster homology <GAL4>

Query Match 52.6%; Score 41; DB 2; Length 825;
 Best Local Similarity 66.7%; Pred. No. 1.2e+02;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CRTPEKCD 9
 Db 52 CRSKDKCD 60

RESULT 8
A:Title: pbbp2-transglycolase/transpeptidase - Chlamydia trachomatis (serotype D, strain A1465)
C:Species: Chlamydia trachomatis
C>Date: 13-Sep-1998 #sequence_revision 13-Sep-1998 #text_change 08-Oct-1999
C/Accession: A1465
R:Stephens, R.S.; Kalan, S.; Lammel, C.J.; Fan, J.; Marathe, R.; Aravind, L.; Mitchell, Science 282, 754-759, 1998
A:Title: Genome sequence of an obligate intracellular pathogen of humans: Chlamydia trachomatis
A:Reference number: A1570; MUID:99000809; PMID:9784136
A:Accession: A1465
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-1080 <AAN>
A:Cross-references: GB:AE001338; GB:AE001273; NID:g3329126; PIDN:AAC68277.1; PID:g332913
A:Experimental source: serotype D, strain UW-3/Cx
C:Genetics:
A:Gene: pbbp

Query Match 52.6%; Score 41; DB 2; Length 1080;
Best Local Similarity 60.0%; Pred. No. 1.5e+02;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CRTPEKCDK 10
Db 53 CRVPEHCDCR 62

RESULT 9
T12727
hypothetical protein 11 - Methanobacterium phage psim2
C:Species: Methanobacterium phage psim2
C>Date: 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change 05-May-2000
C/Accession: T12727
R:Pfister, P.; Wassermann, A.; Stettler, R.; Leisinger, T.
submitted to the EMBL Data Library, May 1998
A:Description: Archaeophage Psim2 complete genomic DNA.
A:Reference number: Z17578
A:Accession: T12727
A:Status: translated from GB/EMBL/DBJ

A:Molecule type: DNA
A:Residues: 1-216 <PFI>
A:Cross-references: EMBL:AF065411; NID:g3249585; PID:g3249596; PIDN:AAC27050.1
A:Experimental source: host Methanobacterium thermoautotrophicum strain Marburg
C:Superfamily: Methanobacterium phage psim2 hypothetical protein 11

Query Match 51.3%; Score 40; DB 2; Length 216;
Best Local Similarity 53.8%; Pred. No. 57;
Matches 7; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Oy 1 CRTPEKCDKPR 13
Db 162 CRHPCEPCDNGR 174

RESULT 10
BVECLT
bacteriophage T4 late gene expression-blocking protein - Escherichia coli (strain K-12)
C:Species: Escherichia coli
C>Date: 31-Mar-1990 #sequence_revision 05-Dec-1997 #text_change 01-Mar-2002
C/Accession: H64858; A30386; Q00194
R:Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; Science 277, 1453-1462, 1997
A:Title: The complete genome sequence of Escherichia coli K-12.
A:Reference number: A64720; MUID:97426617; PMID:9278503
A:Accession: H64858
A:Status: nucleic acid sequence not shown; translation not shown
A:Molecule type: DNA
A:Residues: 1-297 <BLAT>
A:Cross-references: GB:AE000214; GB:U00096; NID:g1787382; PIDN:AAC74223.1; PID:g1787385
A:Experimental source: strain K-12, substrain MG1655
R:Kao, C.; Snyder, L.

J. Bacteriol. 170, 2056-2062, 1988
A:Title: The 11t gene product which blocks bacteriophage T4 late gene expression is a me
A:Reference number: A30386; MUID:88197991; PMID:2452152
A:Accession: A30386
A:Molecule type: DNA
A:Residues: 1-120, 'QVANHGL', 128, 'NV', 131, 'SOGR', 136-297 <KAO>
A:Cross-references: GB:M19654; NID:g146626; PIDN:AAA24074.1; PID:g146627
A:Experimental source: strain JM101
C:Genetics:
A:Gene: 11t
A:Map position: 25 min
A:Genome: cryptic prophage el4
C:Function:
A:Description: interacts with a short DNA sequence of the major capsid protein gene of b
A:Note: may interfere with coordination of protein synthesis and assembly of T4 heads
C:Superfamily: bacteriophage T4 late gene expression blocking protein
C:Keywords: transmembrane protein; zinc
F/61-82/Domain: transmembrane #status predicted <TM1>
F/149-178/Domain: transmembrane #status predicted <TM2>
F/160,164/Binding site: zinc (His) #status predicted
F/161/Active site: Glu #status predicted

Query Match 51.3%; Score 40; DB 1; Length 297;
Best Local Similarity 54.5%; Pred. No. 73;
Matches 6; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Oy 1 CRTPEKCDK 11
Db 123 CESWPKCKPR 133

RESULT 11
C96757
hypothetical protein T18K17.20 (imported) - Arabidopsis thaliana
C:Species: Arabidopsis thaliana (mouse-ear cress)
C>Date: 02-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Mar-2001
C/Accession: C96757
R:Theologis, A.; Ecker, J.R.; Palm, C.J.; Federpiel, N.A.; Kaul, S.; White, O.; Alonso, Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Cressy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizart, L.
Nature 408, 816-820, 2000
A:Authors: Hunter, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Klm, C.C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Lucero, J.S.; Maiti, R.; Marziani, Rizzo, M.; Rooney, T.; Rowley, D.; Sakano, H.
A:Authors: Salzberg, S.L.; Schwartz, J.R.; Shim, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A:Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A:Reference number: A86141; MUID:21016719; PMID:11130712
A:Accession: C96757
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-403 <STO>
A:Cross-references: GB:AE005173; NID:g659867; PIDN:AAF18721.1; GSPDB:GN00141
C:Genetics:
A:Gene: T18K17.20
A:Map position: 1

Query Match 51.3%; Score 40; DB 2; Length 403;
Best Local Similarity 63.6%; Pred. No. 94;
Matches 7; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Oy 2 RTPEKCDKPR 12
Db 102 RWRSSCDLPR 112

RESULT 12
T51372
hypothetical protein F1M13.30 - Arabidopsis thaliana
C:Species: Arabidopsis thaliana (mouse-ear cress)
C>Date: 18-Aug-2000 #sequence_revision 18-Aug-2000 #text_change 18-Aug-2000
C/Accession: T51372
R:Sato, S.; Nakamura, Y.; Kaneko, T.; Kato, T.; Asamizu, E.; Kotani, H.; Tabata, S.; Ban

submitted to the Protein Sequence Database, August 2000

A:Reference number: Z25393
A:Accession: T51372
A:Status: preliminary
A:Molecule type: DNA
A:Residues: 1-526 <SAT>
A:Cross-references: EMBL:AL391145
A:Experimental source: cultivar Columbia; BAC clone FIN13
C:Genetics:
A:Map position: 5
A:Introns: 277/3
A:Note: FIN13_30

Query Match 51.3%; Score 40; DB 2; Length 526;
Best Local Similarity 70.0%; Pred. No. 1.2e+02;
Matches 7; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 2 RTKPEKCDKP 11
DB 231 RWKPEKCDLP 240

RESULT 13

TFPDS
protein-tyrosine kinase (EC 2.7.1.112) src2 - fruit fly (*Drosophila melanogaster*)

C:Species: *Drosophila melanogaster*
C:Date: 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 11-Jun-1999
C:Accession: A27807

R:Gregory, R.J.; Kammermeyer, K.L.; Vincent III, W.S.; Wadsworth, S.G.
Mol. Cell. Biol. 7, 2119-2127, 1987
A:Title: Primary sequence and developmental expression of a novel *Drosophila melanogaster*

A:Reference number: A27807; MUID:87257924; PMID:3110602
A:Accession: A27807
A:Molecule type: mRNA
A:Residues: 1-590 <GR>
A:Cross-references: GB:M6599; NID:9158496; PIDD:AAA28912.1; PID:9158499
A:Note: The gene is designated as Dsrc28C

C:Genetics:
A:Gene: src2
A:Cross-references: FlyBase:FBgn0003502

A:Map position: 29A
C:Superfamily: protein-tyrosine kinase src; protein kinase homology; SH2 homology; SH3 h
C:Keywords: ATP; autophosphorylation; phosphoprotein; phosphotransferase; transforming P
F:152-201/Domain: SH3 homology <SH3>
F:214-307/Domain: SH2 homology <SH2>
F:328-588/Domain: protein kinase homology <KIN>
F:336-344/Region: protein kinase ATP-binding motif
F:358/Active site: Lys #status predicted
F:481/Binding site: phosphate (Tyr) (covalent) (by autophosphorylation) #status predicted

Query Match 51.3%; Score 40; DB 1; Length 590;
Best Local Similarity 54.5%; Pred. No. 1.3e+02;
Matches 6; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 1 CRTKPEKCDKP 11
DB 301 CRTKSPCDKP 311

RESULT 14

148689
gene NK10 protein - mouse

C:Species: *Mus musculus* (house mouse)
C:Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 01-Dec-2000
C:Accession: 148689; S49078
R:Lang, R.; Christoph, A.; Thiesen, H.J.; Vopper, G.; Johnson, K.R.; Lemaire, L.; Ploma
DNA Cell Biol. 14, 971-981, 1995
A:Title: Developmentally regulated mouse gene NK10 encodes a zinc finger Repressor Pro
A:Reference number: 148689; MUID:96069544; PMID:7576184
A:Accession: 148689
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-636 <RES>

A:Cross-references: EMBL:X79828; NID:9506501; PIDD:CAA56225.1; PID:9506502
C:Superfamily: zinc finger protein ZFP-36; LIM metal-binding repeat homology

Query Match 51.3%; Score 40; DB 2; Length 636;
Best Local Similarity 58.3%; Pred. No. 1.4e+02;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

OY 2 RTKPEKCDKPRR 13
DB 204 KKKPYKCDKCRK 215

RESULT 15

B47447
calcium channel protein alpha-1 chain (variant doe-4) - electric ray (*Discopyge omata*)

C:Species: *Discopyge omata*
C:Date: 21-Jan-1994 #sequence_revision 18-Nov-1994 #text_change 13-Sep-1998
C:Accession: B47447

R:Horne, W.A.; Elliott, P.T.; Inman, I.; Zhou, M.; Tsien, R.W.; Schwarz, T.L.
Proc. Natl. Acad. Sci. U.S.A. 90, 3787-3791, 1993
A:Title: Molecular diversity of Ca(2+) channel alpha 1 subunits from the marine ray *Disc*

A:Reference number: A47447; MUID:93248175; PMID:7683405
A:Accession: B47447
A:Status: preliminary; not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-2326 <HOR>

C:Superfamily: voltage-dependent calcium channel protein alpha-1 chain
A:Note: sequence extracted from NCBI backbone (NCBI:P:130673)

Query Match 51.3%; Score 40; DB 2; Length 2326;
Best Local Similarity 60.0%; Pred. No. 4e+02;
Matches 6; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

OY 4 KPEKCDKPRR 13
DB 838 QPESCEAPRR 847

Search completed: January 30, 2004, 11:46:14
Job time : 6.6 secs

FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLUCNA. . .) (POTENTIAL).
 SQ SEQUENCE 146 AA, 17247 MW, 4E792CB57F91760 CRC64;

Query Match 66.0%; Score 51.5; DB 1; Length 146;
 Best Local Similarity 61.1%; Pred. No. 0.15;
 Matches 11; Conservative 0; Mismatches 2; Indels 5; Gaps 1;

Qy 1 CRTK-----PEKDXPRR 13
 Db 129 CRPKDKARQEKDCRRR 146

RESULT 2

QUTA_EMENTI STANDARD; PRT; 825 AA.
 AC P10563;
 DT 01-JUL-1989 (Rel. 11, Created)
 DT 01-JUL-1989 (Rel. 11, Last sequence update)
 DT 01-APR-1993 (Rel. 25; Last annotation update)
 DE Quinic acid utilization activator.
 GN QUTA.
 OS *Emicella nidulans* (*Aspergillus nidulans*).
 OC Eukaryota; Fungi; Ascomycota; Pezizomycotina; Eurotiomycetes;
 OC Eurotiales; Trichocommata; *Emicella*.
 NC NCB1_TaxID=162425;
 RN (1)
 RP SEQUENCE FROM N.A.
 RX MEDLINE=88040423; PubMed=3313276;
 RA Berr R.K., Whittington H., Roberts C.F., Hawkins A.R.;
 RT "Isolation and characterization of the positively acting regulatory
 gene QUTA from *Aspergillus nidulans*."
 RL Nucleic Acids Res. 15:7991-8001(1987).
 CC -1- FUNCTION: TRANSCRIPTION ACTIVATION OF GENES FOR ENZYMES AND
 PROTEINS OF QUINATE METABOLISM BY BINDING TO A 16 BASE-PAIR
 SEQUENCE (CONSENSUS GGATANNNTTATCC) IN FRONT OF EACH QUT GENE.
 CC -1- SUBCELLULAR LOCATION: Nuclear.
 CC -1- SIMILARITY: Contains 1 Zn(2)-Cys(6) fungal-type binuclear cluster
 domain.

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DR EMBL, X06252; CAN29594.1; -
 DR PIR, A26983; A26983.
 DR HSSP, P07272; 1PY1.
 DR TRNSPAC, T02849; -
 DR InterPro, IPR001138; Fungi Trn.
 DR Pfam, PF04082; Fungal trans. 1.
 DR Pfam, PF00172; Zn_c1us; 1.
 DR SMART, SM00066; GAL4; 1.
 DR PROSITE, PS00463; ZN2_CY6_FUNGAL_1; 1.
 DR PROSITE, PS50048; ZN2_CY6_FUNGAL_2; 1.
 KW Transcription regulation; Activator; DNA-binding; Nuclear protein;
 KW Zinc; Metal-binding; Quinate metabolism.
 FT DNA_BIND 49 76 ZN(2)-CYS(6), FUNGAL-TYPE.
 SQ SEQUENCE 825 AA; 90408 MW; AE5C31848BFA792 CRC64;

Query Match 52.6%; Score 41; DB 1; Length 825;
 Best Local Similarity 66.7%; Pred. No. 39;
 Matches 6; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CRTPEKCD 9
 Db 52 CRSKDKCD 60

RESULT 3
 RIN4_ARATH STANDARD; PRT; 211 AA.
 ID RIN4_ARATH
 AC Q8GYN5; Q9LSG9;
 DT 15-SEP-2003 (Rel. 42, Created)
 DT 15-SEP-2003 (Rel. 42, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE RPM1-interacting protein 4.
 GN RIN4 OR ATG325070 OR MTL12_1.
 OS Arabidopsis thaliana (Mouse-ear cress).
 OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
 OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
 OC eurosids II; Brassicales; Brassicaceae; Arabidopsis.
 NC NCB1_TaxID=3702;
 RN (1)
 RP SEQUENCE FROM N.A., FUNCTION, SUBCELLULAR LOCATION, PHOSPHORYLATION,
 RP AND INTERACTION WITH RPM1, AVRPM1 AND AVR6.
 RC STRAIN=cv. Columbia;
 RX MEDLINE=21952473; PubMed=11955429;
 RA Mackey D., Holt B.P., Ilt, Wild A., Dangl J.L.;
 RT "RIN4 interacts with *Pseudomonas syringae* type III effector molecules
 RT and is required for RPM1-mediated resistance in Arabidopsis."
 RL Cell 108:743-754(2002).
 [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=cv. Columbia;
 RX MEDLINE=20277480; PubMed=10819329;
 RA Sato S., Nakamura Y., Kaneko T., Katoh T., Asamizu E., Tabata S.;
 RT "Structural analysis of Arabidopsis thaliana chromosome 3. I. Sequence
 RT features of the regions of 4,504,864 bp covered by sixty P1 and TAC
 RT clones."
 RL DNA Res. 7:131-135(2000).
 [3]
 RP SEQUENCE FROM N.A.
 RC STRAIN=cv. Columbia;
 RA Shinozaki K., Davis R.W., Ecker J.R., Theologis A.;
 RT "RIKEN Arabidopsis full length cDNA clones (RAFLs) sequenced by the
 RT SSP consortium (Salk/Stanford/RGSC).";
 RL Submitted (NOV-2002) to the EMBL/Genbank/DBJ databases.
 [4]
 RP FUNCTION, SUBCELLULAR LOCATION, AND INTERACTION WITH AVRPT2 AND RPS2.
 RX MEDLINE=22469031; PubMed=12581526;
 RA Atreel M.J., Steakiewicz B.J.;
 RT "Initiation of RPS2-specified disease resistance in Arabidopsis is
 RT coupled to the AvrRpt2-directed elimination of RIN4."
 RL Cell 112:369-377(2003).
 [5]
 RP FUNCTION, AND INTERACTION WITH AVRPT2.
 RX MEDLINE=22469032; PubMed=12581527;
 RA Mackey D., Belkhabir Y., Alonso J.M., Ecker J.R., Dangl J.L.;
 RT "Arabidopsis RIN4 is a target of the type III virulence effector
 RT AvrRpt2 and modulates RPS2-mediated resistance."
 RL Cell 112:379-389(2003).
 CC -1- FUNCTION: Essential regulator of plant defense, which plays a
 CC central role in resistance in case of infection by a pathogen. It
 CC is a common target for both type III virulence proteins from
 CC *Pseudomonas syringae* (AvrB, AvrPm1 and AvrRpt2) and for the plant
 CC resistance (R) proteins RPM1 and RPS2. In strain carrying the
 CC appropriate R gene for avirulence proteins of the pathogen, its
 CC association with avirulence proteins triggers a defense system
 CC including the hypersensitive response, which limits the spread of
 CC disease. In contrast, in plants lacking appropriate R genes, its
 CC association with avirulence proteins of the pathogen impairs the
 CC defense system and leads to the unrelated avirulence proteins AVR6,
 CC AVRPM1 and AVRPT2 from *Pseudomonas syringae*. Interacts with the
 CC N-terminal domain of RPM1. Interacts indirectly with RPS2. Its
 CC association with AVR6 and AVRPM1 results in its phosphorylation,
 CC which is in turn recognized by the resistance RPM1 protein,
 CC leading to the activation of RPM1-dependent disease resistance
 CC responses. On the other hand, its association with AVRPT2 results

CC in its destruction, which activates RPS2-dependent disease
 CC resistance responses.
 CC -1- SUBCELLULAR LOCATION: Cytoplasmic; membrane-associated.
 CC -1- PTM: Phosphorylated following the interaction with AvrPm1 or
 CC AVR3.
 CC -1- SIMILARITY: Belongs to the RIM family.
 CC -1- CAUTION: Ref.2 sequence differs from that shown due to erroneous
 CC gene model prediction.
 CC -----
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 CC -----
 CC EMBL; AB026647; BAB02065.1; ALT_SEQ.
 CC EMBL; AK117488; BAC42151.1; -.
 CC Plant defense; Membrane; Phosphorylation.
 CC KW
 CC SEQUENCE 211 AA; 23371 MW; AB31ECF840AEA09 CRC64;
 CC
 CC Query Match 51.3%; Score 40; DB 1; Length 211;
 CC Best Local Similarity 66.7%; Pred. No. 15;
 CC Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 CC
 CC QY 2 RTKPEKCDKPR 13
 CC Db 61 RTKPEQVDIVRR 72
 CC
 CC RESULT 4
 CC LIT_ECOLI STANDARD; PRT; 297 AA.
 CC ID P11072; P77283;
 CC DT 01-JUL-1989 (Rel. 11, Created)
 CC DT 01-NOV-1997 (Rel. 35, Last sequence update)
 CC DT 16-OCT-2001 (Rel. 40, Last annotation update)
 CC DE Bacteriophage T4 late gene expression blocking protein (GPLIT).
 CC GN LIT OR B1139.
 CC OS Escherichia coli.
 CC OC Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales;
 CC OC Enterobacteriaceae; Escherichia.
 CC NCBI_TaxID=562;
 CC RX [1]
 CC RP SEQUENCE FROM N.A.
 CC RC STRAIN=JM101;
 CC RX MEDLINE=88197991; PubMed=2452152;
 CC RA Kao C., Snyder L.;
 CC RT "The lit gene product which blocks bacteriophage T4 late gene
 CC RT expression is a membrane protein encoded by a cryptic DNA element.
 CC RT e14.";
 CC RL J. Bacteriol. 170:2056-2062(1988).
 CC RN [2]
 CC RP SEQUENCE FROM N.A.
 CC RC STRAIN=K12 / MG1655;
 CC RX MEDLINE=97426617; PubMed=9278503;
 CC RA Blatner F.R., Plunkett G. II, Bloch C.A., Perna N.T., Burland V.,
 CC RA Riley M., Collado-Vides J., Glaesner J.D., Rode C.K., Mayhew G.F.,
 CC RA Gregor J., Davis N.W., Kirkpatrick H.A., Goeden M.A., Rose D.J.,
 CC RA Mau B., Shao Y.;
 CC RT "The complete genome sequence of Escherichia coli K-12.";
 CC RL Science 277:1233-1238(1997).
 CC RN [3]
 CC RP SEQUENCE FROM N.A.
 CC RC STRAIN=K12;
 CC RX MEDLINE=97061202; PubMed=8905232;
 CC RA Oshima T., Aiba H., Baba T., Fujita K., Hayaishi K., Honjo A.,
 CC RA Ikemoto K., Inada T., Itoh T., Kajihara M., Kanai K., Kashimoto K.,
 CC RA Kimura S., Kikugawa M., Makino K., Masuda S., Miki T., Mizobuchi K.,
 CC RA Mori H., Motomura Y., Nakamura Y., Nishimoto H., Nishio Y., Saito N.,
 CC RA Sempel G., Seki Y., Tagami H., Takemoto K., Wada C., Yamamoto Y.,
 CC RA Yano M., Horiiuchi T.;

RT "A 718-kb DNA sequence of the Escherichia coli K-12 genome
 RT corresponding to the 12.7-28.0 min region on the linkage map.";
 RL DNA Res. 3:137-155(1996).
 CC -1- FUNCTION: INTERACTS WITH A SHORT DNA SEQUENCE ABOUT ONE-QUARTER
 CC OF THE WAY INTO THE MAJOR CAPSID PROTEIN GENE 23 OF T4, AND THE
 CC INHIBITION OCCURS WHEN THIS LATE GENE OF THE VIRUS IS EXPRESSED.
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 CC -----
 CC EMBL; M19634; AAA24074.1; -.
 CC EMBL; AE000214; AAC74223.1; -.
 CC EMBL; D90748; BAA35959.1; -.
 CC EMBL; D90749; BAA35968.1; -.
 CC PIR; H64858; BVCLT.
 CC DR MEROPS; U49.001; -.
 CC DR Ecogene; EG10535; 11f.
 CC KW Inner membrane; Transmembrane; Complete proteome.
 CC FT TRANSMEM 61
 CC FT TRANSMEM 149 178
 CC FT CONFLICT 121 135
 CC FT REF. 1).
 CC SEQUENCE 297 AA; 33762 MW; 8A06C0EB82FB1AF CRC64;
 CC
 CC Query Match 51.3%; Score 40; DB 1; Length 297;
 CC Best Local Similarity 54.5%; Pred. No. 21;
 CC Matches 6; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
 CC
 CC QY 1 CRTKPEKCDKPR 11
 CC Db 123 CESWPKCKCPK 133
 CC
 CC RESULT 5
 CC ZP90_MOUSE STANDARD; PRT; 636 AA.
 CC ID ZP90_MOUSE
 CC AC Q61967;
 CC DT 01-NOV-1997 (Rel. 35, Created)
 CC DT 01-NOV-1997 (Rel. 35, Last sequence update)
 CC DT 15-SEP-2003 (Rel. 42, Last annotation update)
 CC DE Zinc finger protein 90 (Zfp-90) (zinc finger protein NK10).
 CC GN ZP90 OR NK10.
 CC OS Mus musculus (Mouse).
 CC OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 CC NCBI_TaxID=10090;
 CC RX [1]
 CC RP SEQUENCE FROM N.A.
 CC RC STRAIN=C57BL/6; TISSUE=Brain;
 CC RX MEDLINE=96069544; PubMed=7576184;
 CC RA Lange R., Christoph A., Thiesen H.-J., Vopper G., Johnson K.R.,
 CC RA Lemaire L., Plomann M., Cremer H., Barthels D., Heinelein U.A.O.;
 CC RT "Developmentally regulated mouse gene NK10 encodes a zinc finger
 CC RT repressor protein with differential DNA-binding domains.";
 CC RL DNA Cell Biol. 14:971-981(1995).
 CC -1- FUNCTION: MAY FUNCTION AS A REPRESSOR OR SILENCER PROTEIN, AND
 CC MOST LIKELY EXERTS ITS REPRESSING ACTIVITY UPON ZINC-DEPENDENT
 CC BINDING TO DNA. MAY BE INVOLVED IN PROPER SPERMATOGENESIS BY
 CC REPRESENTING THE EXPRESSION OF GENES UNNECESSARY OR INCOMPATIBLE
 CC WITH THE MAINTENANCE OF A HAPLOID CELL STATE.
 CC -1- SUBCELLULAR LOCATION: Nuclear.
 CC -1- TISSUE SPECIFICITY: BRAIN, HEART, SPLEEN, THYMUS, AND TESTIS.
 CC -1- DEVELOPMENTAL STAGE: THERE IS A MARKED INCREASE AFTER POSTNATAL
 CC STAGES 18-20 (SIMULTANEOUSLY TO THE APPEARANCE OF HAPLOID CELL
 CC STAGES). MAXIMAL EXPRESSION IS OBSERVED AROUND 2 WEEKS
 CC POSTNATALLY, WITH THE EXCEPTION OF BRAIN AND TESTIS, WHERE THE
 CC EXPRESSION IS HIGHEST IN EARLIER DEVELOPMENTAL STAGES.
 CC -1- SIMILARITY: BELONGS TO THE KRUEPPEL FAMILY OF C2H2-TYPE ZINC-

FINGER PROTEINS.
 -1- SIMILARITY: Contains 1 KRAB domain.

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 CC -----
 CC EMBL: X79828; CAA56225.1; -
 CC PIR: I48689; I48689.
 CC HSSP: P08047; I5P2.
 CC MGI: 104786; Zfp90.
 CC InterPro: IPR001909; KRAB.
 CC InterPro: IPR007087; Znf_C2H2.
 CC InterPro: IPR007086; Znf_C2H2_sub.
 CC Pfam: PF01352; KRAB; 1.
 CC Pfam: PF00096; zf-C2H2; 13.
 CC PRINTS: PR00048; ZINC_FINGER.
 CC ProDom: PD000003; Znf_C2H2; 7.
 CC SMART: SM00349; KRAB; 1.
 CC SMART: SM00355; Znf_C2H2; 13.
 CC PROSITE: PS00805; KRAB; 1.
 CC PROSITE: PS00028; ZINC_FINGER_C2H2_2; 13.
 CC PROSITE: PS0157; ZINC_FINGER_C2H2_2; 13.
 CC Zinc-finger; Metal-binding; DNA-binding; Nuclear protein; Repeat;
 CC Transcription regulation; Repressor.
 CC DOMAIN 14 85
 CC FT ZN_FING 208 230 C2H2-TYPE.
 CC FT ZN_FING 250 272 C2H2-TYPE.
 CC FT ZN_FING 278 300 C2H2-TYPE.
 CC FT ZN_FING 306 328 C2H2-TYPE.
 CC FT ZN_FING 334 356 C2H2-TYPE.
 CC FT ZN_FING 362 384 C2H2-TYPE.
 CC FT ZN_FING 390 412 C2H2-TYPE.
 CC FT ZN_FING 446 468 C2H2-TYPE.
 CC FT ZN_FING 494 516 C2H2-TYPE.
 CC FT ZN_FING 522 544 C2H2-TYPE.
 CC FT ZN_FING 550 572 C2H2-TYPE.
 CC FT ZN_FING 578 600 C2H2-TYPE.
 CC FT ZN_FING 606 628 C2H2-TYPE.
 CC FT ZN_FING 628 642 C2H2-TYPE.
 CC SEQUENCE 636 AA; 72423 MW; 1269BEC7729E369F CRC64;
 Query Match 51.3%; Score 40; DB 1; Length 636;
 Best Local Similarity 58.3%; Pred. No. 44;
 Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
 QY 2 RTKPKCKDKPR 13
 DB 204 KKKPKCKDKCRK 215
 RESULT 6
 BTKL_DROME STANDARD: PRT: 786 AA.
 ID BTKL_DROME 076132; 076133; P11361; Q8T0A0; Q9VLQ2; Q9VLQ3;
 AC P08530; O45032; O76132; 076133; P11361; Q8T0A0; Q9VLQ2; Q9VLQ3;
 DT 01-AUG-1988 (Rel. 08; Created)
 DT 28-FEB-2003 (Rel. 41; Last sequence update)
 DT 15-SEP-2003 (Rel. 42; Last annotation update)
 DE Tyrosine-protein kinase Btk29A (EC 2.7.1.112) (Dsr280C).
 GN BTK29A OR SRC29A OR SRC2 OR TEC29 OR CG8049.
 OS Drosophila melanogaster (Fruit fly).
 OC Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
 OC Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
 OC Ephyrididae; Drosophilidae; Drosophila.
 CC NCBI_TaxID=7227;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORM 1).
 RC MEDLINE=87257924; PubMed=3110602;
 RA Gregory R.J., Kammermeyer K.L., Vincent W.S. III, Wadsworth S.G.;
 "Primary sequence and developmental expression of a novel Drosophila

RT melanogaster src gene.";
 RL Mol. Cell. Biol. 7:2119-2127(1987).
 RN [2]
 RP SEQUENCE FROM N.A., AND ALTERNATIVE SPLICING.
 RC STRAIN=Berkeley; TISSUE=Embryo;
 RX MEDLINE=99263011; PubMed=10330180;
 RA Baba K., Takeshita A., Majima K., Ueda R., Kondo S., Junji N.,
 RA Yamamoto D.;
 RT "The Drosophila Brucan tyrosine kinase (Btk) homolog is required for
 RT adult survival and male genital formation.";
 RL Mol. Cell. Biol. 19:4405-4413(1999).
 RN [3]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Berkeley;
 RX MEDLINE=20196006; PubMed=10731132;
 RA Adams M.D., Celisner S.E., Holt R.A., Evans C.A., Gocayne J.D.,
 RA Amaratunga P.G., Scherer S.E., Li P.W., Hoskins R.A., Gale R.F.,
 RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
 RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
 RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
 RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,
 RA Abil J.F., Agbayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
 RA Ballew R.M., Baer A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
 RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
 RA Borokova D., Botchan M.R., Bouck J., Brokstein P., Brotlier P.,
 RA Burris K.C., Busam D.A., Butler H., Cadieu E., Center A., Chandra I.,
 RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
 RA de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
 RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunlov B.C., Dunn P.,
 RA Durbin K.J., Evangelista C.C., Ferraz C., Ferreira S., Fleischmann W.,
 RA Fostler C., Garg F., Gorrell J.H., Gu Z., Guan P., Harris M.,
 RA Harris N.L., Harvey D., Heilmann T.J., Hernandez J.R., Houck J.,
 RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwa C.,
 RA Jaitli M., Kalush F., Karpen G.H., Ke Z., Kemison J.A., Ketchum K.A.,
 RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
 RA Laoko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
 RA Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
 RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
 RA Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
 RA Nelson D.R., Nelson K.A., Nixon K., Nusken D.R., Pacle J.M.,
 RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
 RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
 RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,
 RA Spier E., Spradling A.C., Stapleton M., Strong R., Sun B.,
 RA Svrtkars R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
 RA Wang Z.-Y., Wasserman D.A., Weinstock G.M., Weisenbach J.,
 RA Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
 RA Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
 RA Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O.,
 RA Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
 RT "The genome sequence of Drosophila melanogaster.";
 RL Science 287:2185-2195(2000).
 RN [4]
 RP REVISIONS, AND ALTERNATIVE SPLICING.
 RC STRAIN=Berkeley;
 RX MEDLINE=22426069; PubMed=12537572;
 RA Misra S., Crosby M.A., Mungall C.J., Matthews B.B., Campbell K.S.,
 RA Hradecky P., Huang Y., Kaminker J.S., Millburn G.H., Prochownik S.E.,
 RA Smith C.D., Tupy J.L., Whitfield E.J., Bayraktaroglu L., Berman B.P.,
 RA Betencourt B.R., Celisner S.E., de Grey A.D.N.J., Drysdale R.A.,
 RA Harris N.L., Richter J., Russo S., Schroeder A.J., Shu S.O.,
 RA Stapleton M., Yamada C., Ashburner M., Gelbart W.M., Rubin G.M.,
 RA Lewis S.E.;
 RT "Annotation of the Drosophila melanogaster euchromatic genome: a
 RT systematic review.";
 RL Genome Biol. 3:RESEARCH0083.1-RESEARCH0083.22(2002).
 RN [5]
 RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
 RC STRAIN=Berkeley; TISSUE=Embryo;
 RX MEDLINE=22426066; PubMed=12537569;
 RA Stapleton M., Carlson J.W., Brokstein P., Yu C., Champe M.,
 RA George R.A., Guarin H., Kronmiller B., Pacle J.M., Park S., Wan K.H.,

RA Rubin G.M., Celniker S.E.;
 RT "A Drosophila full-length cDNA resource.";
 RL Genome Biol. 3:RESEARCH0080.1-RESEARCH0080.8(2002).
 RN [6]
 RP SEQUENCE OF 199-789 FROM N.A. (ISOFORM 1).
 RC TISUB=eye-antennal disk;
 RX MEDLINE=98325396; PubMed=9660966;
 RA Guarnieri D.J., Dodson G.S., Simon M.A.;
 RT "SRC64 regulates the localization of a Tec-family kinase required
 for Drosophila ring canal growth.";
 RL Mol. Cell 1:831-840(1998).
 RN [7]
 RN SEQUENCE OF 552-684 FROM N.A.
 RX MEDLINE=85215606; PubMed=3923437;
 RA Madeworth S.C., Madhavan K., Bildeau-Wentworth D.;
 RT "Maternal inheritance of transcripts from three Drosophila src-related
 genes.";
 RL Nucleic Acids Res. 13:2153-2170(1985).
 RN [8]
 RN FUNCTION, AND TISSUE SPECIFICITY.
 RP MEDLINE=98322240; PubMed=9655810;
 RX Dodson G.S., Guarnieri D.J., Simon M.A.;
 RA "Src64 is required for ovarian ring canal morphogenesis during
 Drosophila oogenesis.";
 RT Development 125:2883-2892(1998).
 RL [9]
 RN SIMILARITY WITH BTK SUBFAMILY.
 RA Sjolander K.;
 RL Unpublished observations (JUL-1997).
 CC -1- FUNCTION: Required for proper ring canal development. Also
 required for the development of male genitalia and for adult
 survival.
 CC -1- CATALYTIC ACTIVITY: ATP + a protein tyrosine = ADP + protein
 tyrosine phosphate.
 CC -1- SUBCELLULAR LOCATION: Ring canals.
 CC -1- ALTERNATIVE PRODUCTS:
 Event=Alternative splicing; Named isoforms=2;
 Name=2;
 CC [1]
 CC IsoId=P08630-1; Sequence=Displayed;
 Name=1;
 CC IsoId=P08630-2; Sequence=VSP_004964, VSP_004965;
 CC -1- TISSUE SPECIFICITY: Ring canals in the egg chambers and imaginal
 disks of third-instar larvae.
 CC -1- DEVELOPMENTAL STAGE: Expressed both maternally and zygotically.
 CC Predominantly in early to middle embryogenesis, in larvae and
 adult females.
 CC -1- SIMILARITY: BELONGS TO THE TYR FAMILY OF PROTEIN KINASES. TEC
 SUBFAMILY.
 CC -1- SIMILARITY: Contains 1 PH domain.
 CC -1- SIMILARITY: Contains 1 SH2 domain.
 CC -1- SIMILARITY: Contains 1 SH3 domain.
 CC -1- CAUTION: Ref1 sequence differs from that shown due to frameshifts
 in positions in the N-terminal sequence of isoform 1 and in
 positions 222-245.
 CC -----
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 or send an email to license@sib-sib.ch).
 CC -----
 CC EMBL, M16589; AAA28912.1; ALT_FRAME.
 DR EMBL, AB009840; BAA24063.1; -
 DR EMBL, AB009841; BAA24064.1; -
 DR EMBL, AB003620; AAF52631.3; -
 DR EMBL, AB003620; AAF52632.2; -
 DR EMBL, AY068457; AAL396032.1; -
 DR EMBL, AY128441; AAM75034.1; -
 DR EMBL, AF044337; AAB99858.1; -
 DR EMBL, X02305; CAA26170.1; -
 DR PIR, A23051; A23051.

DR HSSP; P11362; IFGK.
 DR F1YBae; FBgn0003502; Btk29A.
 DR GO; GO:0005737; C:cytoplasm; IDA.
 DR GO; GO:0005886; C:plasma membrane; IDA.
 DR GO; GO:0045172; C:ring canal (sensu Drosophila); IEP.
 DR GO; GO:0004713; F:protein tyrosine kinase activity; ISS.
 DR GO; GO:0007619; P:courtship behavior; NAS.
 DR GO; GO:0008340; P:determination of adult life span; IMP.
 DR GO; GO:0008258; P:head involution; IMP.
 DR GO; GO:0007485; P:male genital morphogenesis (sensu Holometab. . .); IMP.
 DR GO; GO:0006468; P:protein amino acid phosphorylation; ISS.
 DR GO; GO:0007301; P:ring canal formation; IEP.
 DR InterPro; IPR001849; PH.
 DR InterPro; IPR000719; Prot_kinase.
 DR InterPro; IPR002290; Ser_Chr_kinase.
 DR InterPro; IPR000980; SH2.
 DR InterPro; IPR001452; SH3.
 DR InterPro; IPR001245; Tyr_kinase.
 DR Pfam; PF00169; PH; 1.
 DR Pfam; PF00069; Kinase; 1.
 DR Pfam; PF00017; SH2; 1.
 DR Pfam; PF00018; SH3; 1.
 DR PRINTS; PR00401; SH2DOMAIN.
 DR PRINTS; PR00109; TYRKINASE.
 DR ProDom; PD000001; Prot_kinase; 1.
 DR ProDom; PD000093; SH2_1.
 DR ProDom; PD000066; SH3; 1.
 DR SMART; SM00233; PH; 1.
 DR SMART; SM00220; S_TKC; 1.
 DR SMART; SM00252; SH2; 1.
 DR SMART; SM00326; SH3; 1.
 DR SMART; SM00219; TyrKc; 1.
 DR PROSITE; PS50003; PH_DOMAIN; 1.
 DR PROSITE; PS00107; PROTEIN_KINASE_ATP; 1.
 DR PROSITE; PS00109; PROTEIN_KINASE_TYR; 1.
 DR PROSITE; PS50011; PROTEIN_KINASE_DOM; 1.
 DR
 Query Match 51.3%; Score 40; DB 1; Length 786;
 Best Local Similarity 54.5%; Pred. No. 54;
 Matches 6; Conservative 1; Mismatches 4; Indels 0; Gaps 0;
 Oy 1 CRTPEKCDKP 11
 Db 497 CRKSSPCDR 507
 RESULT 7
 CCAB_DISOM STANDARD; PRT; 2326 AA.
 ID CCAB_DISOM
 AC P56658;
 DT 15-JUL-1999 (Rel. 38, Created)
 DT 15-JUL-1999 (Rel. 38, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Probable voltage-dependent N-type calcium channel alpha-1B subunit
 (DBE-4).
 OS Discopoge ommata (Electric ray).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Chondrichthyes;
 OC Elasmobranchii; Squalae; Hypnosqualae; Pristigastera; Batoidae;
 OC Torpediniformes; Narcinoidae; Narcinidae; Discopoge.
 OC NCBI_TaxID=7785;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
 RC TISUB=Electric lobe;
 RX MEDLINE=93248175; PubMed=7683405;
 RA Horne W.A., Billnor P.T., Inman I., Zhou M., Tsien R.W., Schwarz T.L.;
 RT "Molecular diversity of Ca2+ channel alpha 1 subunits from the marine
 ray Discopoge ommata.";
 RL Proc. Natl. Acad. Sci. U.S.A. 90:3787-3791(1993).
 CC -1- FUNCTION: THE ISOFORM ALPHA-1B GIVES RISE TO N-TYPE CALCIUM
 CURRENTS. N-TYPE CALCIUM CHANNELS BELONG TO THE "HIGH-VOLTAGE
 ACTIVATED" (HVA) GROUP (BY SIMILARITY).
 CC -1- SUBUNIT: VOLTAGE-DEPENDENT CALCIUM CHANNELS ARE MULTISUBUNIT

CC COMPLEXES, CONSISTING OF ALPHA-1, ALPHA-2, BETA AND DELTA SUBUNITS
 CC IN A 1:1:1:1 RATIO. THE CHANNEL ACTIVITY IS DIRECTED BY THE FORMING AND VOLTAGE-SENSITIVE ALPHA-1 SUBUNIT. IN MANY CASES, THIS
 CC SUBUNIT IS SUFFICIENT TO GENERATE VOLTAGE-SENSITIVE CALCIUM
 CC CHANNEL ACTIVITY. THE AUXILIARY SUBUNITS BETA AND ALPHA-2/DELTA
 CC LINKED BY A DISULFIDE BRIDGE REGULATE THE CHANNEL ACTIVITY (BY
 CC SIMILARITY).
 CC -1- SUBCELLULAR LOCATION: Integral membrane protein (by similarity).
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing; Named isoforms=2;
 CC Comment-Additional isoforms seem to exist;
 CC Name=1;
 CC IsoId=P56698-1; Sequence=Displayed;
 CC Name=2;
 CC IsoId=P56698-2; Sequence=VSP_000884;
 CC -1- TISSUE SPECIFICITY: EXPRESSION IS HIGHER IN THE ELECTRIC LOBE THAN
 CC IN THE FOREBRAIN.
 CC -1- DOMAIN: EACH OF THE FOUR INTERNAL REPEATS CONTAINS FIVE
 CC HYDROPHOBIC TRANSMEMBRANE SEGMENTS (S1, S2, S3, S5, S6) AND ONE
 CC POSITIVELY CHARGED TRANSMEMBRANE SEGMENT (S4). S4 SEGMENTS
 CC PROBABLY REPRESENT THE VOLTAGE-SENSOR AND ARE CHARACTERIZED BY A
 CC SERIES OF POSITIVELY CHARGED AMINO ACIDS AT EVERY THIRD POSITION.
 CC -1- PTM: PHOSPHORYLATED IN VITRO BY CAM-KINASE II, CAEK, PKC AND GSK3
 CC (BY SIMILARITY).
 CC -1- SIMILARITY: BELONGS TO THE CALCIUM CHANNEL ALPHA-1 SUBUNITS
 CC FAMILY.
 CC -----
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 CC -----
 CC DR EMBL; L12532; -; NOT_ANNOTATED_CDS.
 CC PIR; B47447; B47447.
 CC DR InterPro; IPR001682; Ca_Na_pore.
 CC InterPro; IPR002077; Ca_channel.
 CC DR InterPro; IPR002111; Cat_channel_TrpL.
 CC InterPro; IPR005821; Ion_trans.
 CC DR InterPro; IPR005820; M-channel_nlg.
 CC DR InterPro; IPR005447; NVDCA1phal.
 CC DR InterPro; IPR003915; PKD_2.
 CC Pfam; PF00520; Ion_trans_4.
 CC DR PRINTS; PR00167; CACHANNEL.
 CC DR PRINTS; PR01631; NVDCA1PHAL.
 CC DR PRINTS; PR01433; POLYCYSTIN2.
 CC KM Ionic channel; Transmembrane; Ion transport; Voltage-gated channel;
 CC Calcium channel; Glycoprotein; Repeat; Multigene family;
 CC Calcium-binding; Phosphorylation; Alternative splicing.
 CC FT REPEAT 75 351 I.
 CC FT REPEAT 458 702 II.
 CC FT REPEAT 1134 1416 III.
 CC FT REPEAT 1453 1708 IV.
 CC FT DOMAIN 1 88 CYTOPLASMIC (POTENTIAL).
 CC FT TRANSMEM 89 107 S1 OF REPEAT I (POTENTIAL).
 CC FT DOMAIN 108 125 EXTRACELLULAR (POTENTIAL).
 CC FT TRANSMEM 126 145 S2 OF REPEAT I (POTENTIAL).
 CC FT DOMAIN 146 156 CYTOPLASMIC (POTENTIAL).
 CC FT TRANSMEM 157 176 S3 OF REPEAT I (POTENTIAL).
 CC FT DOMAIN 177 180 EXTRACELLULAR (POTENTIAL).
 CC FT TRANSMEM 181 199 S4 OF REPEAT I (POTENTIAL).
 CC FT DOMAIN 200 218 CYTOPLASMIC (POTENTIAL).
 CC FT TRANSMEM 219 238 S5 OF REPEAT I (POTENTIAL).
 CC FT DOMAIN 239 258 EXTRACELLULAR (POTENTIAL).
 CC FT TRANSMEM 259 278 S6 OF REPEAT I (POTENTIAL).
 CC FT DOMAIN 279 298 CYTOPLASMIC (POTENTIAL).
 CC FT TRANSMEM 299 318 S1 OF REPEAT II (POTENTIAL).
 CC FT DOMAIN 319 338 EXTRACELLULAR (POTENTIAL).
 CC FT TRANSMEM 339 358 S2 OF REPEAT II (POTENTIAL).
 CC FT DOMAIN 359 378 CYTOPLASMIC (POTENTIAL).
 CC FT TRANSMEM 379 398 S3 OF REPEAT II (POTENTIAL).
 CC FT DOMAIN 399 418 S3 OF REPEAT II (POTENTIAL).
 CC FT TRANSMEM 419 438

FT DOMAIN 553 563 EXTRACELLULAR (POTENTIAL).
 FT TRANSMEM 564 582 S4 OF REPEAT II (POTENTIAL).
 FT DOMAIN 583 601 CYTOPLASMIC (POTENTIAL).
 FT TRANSMEM 602 621 S5 OF REPEAT II (POTENTIAL).
 FT DOMAIN 622 641 EXTRACELLULAR (POTENTIAL).
 FT TRANSMEM 642 661 S6 OF REPEAT II (POTENTIAL).
 FT DOMAIN 662 681 CYTOPLASMIC (POTENTIAL).
 FT TRANSMEM 682 700 S1 OF REPEAT III (POTENTIAL).
 FT DOMAIN 700 719 EXTRACELLULAR (POTENTIAL).
 FT TRANSMEM 719 738 S2 OF REPEAT III (POTENTIAL).
 FT DOMAIN 739 758 S3 OF REPEAT III (POTENTIAL).
 FT TRANSMEM 759 778 S4 OF REPEAT III (POTENTIAL).
 FT DOMAIN 779 798 S5 OF REPEAT III (POTENTIAL).
 FT TRANSMEM 799 818 S6 OF REPEAT III (POTENTIAL).
 FT DOMAIN 819 838 S1 OF REPEAT IV (POTENTIAL).
 FT TRANSMEM 839 858 S2 OF REPEAT IV (POTENTIAL).
 FT DOMAIN 859 878 S3 OF REPEAT IV (POTENTIAL).
 FT TRANSMEM 879 898 S4 OF REPEAT IV (POTENTIAL).
 FT DOMAIN 899 918 S5 OF REPEAT IV (POTENTIAL).
 FT TRANSMEM 919 938 S6 OF REPEAT IV (POTENTIAL).
 FT DOMAIN 939 958 S1 OF REPEAT V (POTENTIAL).
 FT TRANSMEM 959 978 S2 OF REPEAT V (POTENTIAL).
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 FT TRANSMEM 999 1018 S4 OF REPEAT V (POTENTIAL).
 FT DOMAIN 1019 1038 S5 OF REPEAT V (POTENTIAL).
 FT TRANSMEM 1039 1058 S6 OF REPEAT V (POTENTIAL).
 FT DOMAIN 1059 1078 S1 OF REPEAT VI (POTENTIAL).
 FT TRANSMEM 1079 1098 S2 OF REPEAT VI (POTENTIAL).
 FT DOMAIN 1099 1118 S3 OF REPEAT VI (POTENTIAL).
 FT TRANSMEM 1119 1138 S4 OF REPEAT VI (POTENTIAL).
 FT DOMAIN 1139 1158 S5 OF REPEAT VI (POTENTIAL).
 FT TRANSMEM 1159 1178 S6 OF REPEAT VI (POTENTIAL).
 FT DOMAIN 1179 1198 S1 OF REPEAT VII (POTENTIAL).
 FT TRANSMEM 1199 1218 S2 OF REPEAT VII (POTENTIAL).
 FT DOMAIN 1219 1238 S3 OF REPEAT VII (POTENTIAL).
 FT TRANSMEM 1239 1258 S4 OF REPEAT VII (POTENTIAL).
 FT DOMAIN 1259 1278 S5 OF REPEAT VII (POTENTIAL).
 FT TRANSMEM 1279 1298 S6 OF REPEAT VII (POTENTIAL).
 FT DOMAIN 1299 1318 S1 OF REPEAT VIII (POTENTIAL).
 FT TRANSMEM 1319 1338 S2 OF REPEAT VIII (POTENTIAL).
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 FT DOMAIN 1379 1398 S5 OF REPEAT VIII (POTENTIAL).
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 FT TRANSMEM 1479 1498 S4 OF REPEAT IX (POTENTIAL).
 FT DOMAIN 1499 1518 S5 OF REPEAT IX (POTENTIAL).
 FT TRANSMEM 1519 1538 S6 OF REPEAT IX (POTENTIAL).
 FT DOMAIN 1539 1558 S1 OF REPEAT X (POTENTIAL).
 FT TRANSMEM 1559 1578 S2 OF REPEAT X (POTENTIAL).
 FT DOMAIN 1579 1598 S3 OF REPEAT X (POTENTIAL).
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 FT TRANSMEM 1719 1738 S4 OF REPEAT XI (POTENTIAL).
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 FT TRANSMEM 1759 1778 S6 OF REPEAT XI (POTENTIAL).
 FT DOMAIN 1779 1798 S1 OF REPEAT XII (POTENTIAL).
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 FT DOMAIN 1819 1838 S3 OF REPEAT XII (POTENTIAL).
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 FT TRANSMEM 1959 1978 S4 OF REPEAT XIII (POTENTIAL).
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 FT TRANSMEM 1999 2018 S6 OF REPEAT XIII (POTENTIAL).
 FT DOMAIN 2019 2038 S1 OF REPEAT XIV (POTENTIAL).
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 FT DOMAIN 2099 2118 S5 OF REPEAT XIV (POTENTIAL).
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 FT DOMAIN 2219 2238 S5 OF REPEAT XV (POTENTIAL).
 FT TRANSMEM 2239 2258 S6 OF REPEAT XV (POTENTIAL).
 FT DOMAIN 2259 2278 S1 OF REPEAT XVI (POTENTIAL).
 FT TRANSMEM 2279 2298 S2 OF REPEAT XVI (POTENTIAL).
 FT DOMAIN 2299 2318 S3 OF REPEAT XVI (POTENTIAL).
 FT TRANSMEM 2319 2338 S4 OF REPEAT XVI (POTENTIAL).
 FT DOMAIN 2339 2358 S5 OF REPEAT XVI (POTENTIAL).
 FT TRANSMEM 2359 2378 S6 OF REPEAT XVI (POTENTIAL).
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 FT TRANSMEM 2399 2418 S2 OF REPEAT XVII (POTENTIAL).
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 FT DOMAIN 2739 2758 S1 OF REPEAT XX (POTENTIAL).
 FT TRANSMEM 2759 2778 S2 OF REPEAT XX (POTENTIAL).
 FT DOMAIN 2779 2798 S3 OF REPEAT XX (POTENTIAL).
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 FT TRANSMEM 2919 2938 S4 OF REPEAT XXI (POTENTIAL).
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 FT TRANSMEM 3279 3298 S4 OF REPEAT XXIV (POTENTIAL).
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 FT TRANSMEM 3359 3378 S2 OF REPEAT XXV (POTENTIAL).
 FT DOMAIN 3379 3398 S3 OF REPEAT XXV (POTENTIAL).
 FT TRANSMEM 3399 3418 S4 OF REPEAT XXV (POTENTIAL).
 FT DOMAIN 3419 3438 S5 OF REPEAT XXV (POTENTIAL).
 FT TRANSMEM 3439 3458 S6 OF REPEAT XXV (POTENTIAL).
 FT DOMAIN 3459 3478 S1 OF REPEAT XXVI (POTENTIAL).
 FT TRANSMEM 3479 3498 S2 OF REPEAT XXVI (POTENTIAL).
 FT DOMAIN 3499 3518 S3 OF REPEAT XXVI (POTENTIAL).
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 FT DOMAIN 3539 3558 S5 OF REPEAT XXVI (POTENTIAL).
 FT TRANSMEM 3559 3578 S6 OF REPEAT XXVI (POTENTIAL).
 FT DOMAIN 3579 3598 S1 OF REPEAT XXVII (POTENTIAL).
 FT TRANSMEM 3599 3618 S2 OF REPEAT XXVII (POTENTIAL).
 FT DOMAIN 3619 3638 S3 OF REPEAT XXVII (POTENTIAL).
 FT TRANSMEM 3639 3658 S4 OF REPEAT XXVII (POTENTIAL).
 FT DOMAIN 3659 3678 S5 OF REPEAT XXVII (POTENTIAL).
 FT TRANSMEM 3679 3698 S6 OF REPEAT XXVII (POTENTIAL).
 FT DOMAIN 3699 3718 S1 OF REPEAT XXVIII (POTENTIAL).
 FT TRANSMEM 3719 3738 S2 OF REPEAT XXVIII (POTENTIAL).
 FT DOMAIN 3739 3758 S3 OF REPEAT XXVIII (POTENTIAL).
 FT TRANSMEM 3759 3778 S4 OF REPEAT XXVIII (POTENTIAL).
 FT DOMAIN 3779 3798 S5 OF REPEAT XXVIII (POTENTIAL).
 FT TRANSMEM 3799 3818 S6 OF REPEAT XXVIII (POTENTIAL).
 FT DOMAIN 3819 3838 S1 OF REPEAT XXIX (POTENTIAL).
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 FT TRANSMEM 3879 3898 S4 OF REPEAT XXIX (POTENTIAL).
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 FT TRANSMEM 3919 3938 S6 OF REPEAT XXIX (POTENTIAL).
 FT DOMAIN 3939 3958 S1 OF REPEAT XXX (POTENTIAL).
 FT TRANSMEM 3959 3978 S2 OF REPEAT XXX (POTENTIAL).
 FT DOMAIN 3979 3998 S3 OF REPEAT XXX (POTENTIAL).
 FT TRANSMEM 3999 4018 S4 OF REPEAT XXX (POTENTIAL).
 FT DOMAIN 4019 4038 S5 OF REPEAT XXX (POTENTIAL).
 FT TRANSMEM 4039 4058 S6 OF REPEAT XXX (POTENTIAL).
 FT DOMAIN 4059 4078 S1 OF REPEAT XXXI (POTENTIAL).
 FT TRANSMEM 4079 4098 S2 OF REPEAT XXXI (POTENTIAL).
 FT DOMAIN 4099 4118 S3 OF REPEAT XXXI (POTENTIAL).
 FT TRANSMEM 4119 4138 S4 OF REPEAT XXXI (POTENTIAL).
 FT DOMAIN 4139 4158 S5 OF REPEAT XXXI (POTENTIAL).
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 FT TRANSMEM 4479 4498 S4 OF REPEAT XXXIV (POTENTIAL).
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 FT TRANSMEM 7599 7618 S4 OF REPEAT LIX (POTENTIAL).
 FT DOMAIN 7619 7638 S5 OF REPEAT LIX (POTENTIAL).
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 FT TRANSMEM 7679 7698 S


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Query Match 51.3%; Score 40; DB 1; Length 2907;
Best Local Similarity 58.3%; Pred. No. 2e+02;
Matches 7; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

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QY 1 CRTKPKCKDKPR 12
DB 2335 CRTKPKCKDKPR 2346

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RESULT 9
PBN2_HUMAN STANDARD; PRT; 2911 AA.
AC P35556;
DT 01-JUN-1994 (rel. 29, Created)
DT 01-FEB-1996 (rel. 33, Last sequence update)
DT 28-FEB-2003 (rel. 41, Last annotation update)
DE Fibrillin 2 precursor.
GN PBN2.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=94165150; PubMed=8120105;
RA Zhang H., Apfelroth S.D., Hu W., Davis E.C., Sanguinetti C.,
RA Bonadio J., Mecham R.P., Ramirez F.;
RT "Structure and expression of fibrillin-2, a novel microfibrillar

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RT component preferentially located in elastic matrices.";
J. Cell Biol. 124:855-863(1994).
[2]
SEQUENCE OF 752-1505 FROM N.A.
MEDLINE=91304567; PubMed=1852206;
RA Lee B., Godfrey M., Vitale E., Horl H., Mattei M.-G., Sarfraz M.,
RA Tsipouras P., Ramirez F., Hollister D.;
RT "Linkage of Marfan syndrome and a phenotypically related disorder to
RT two different fibrillin genes.";
RL Nature 352:330-334(1991).
[3]
VARIANTS CCA TYR-1252 AND SER-1433, AND VARIANT ILE-964.
MEDLINE=96083599; PubMed=7493032;
RA Putnam B.A., Zhang H., Ramirez F., Milewicz D.M.;
RT "Fibrillin-2 (PBN2) mutations result in the Marfan-like disorder,
RT congenital contractual arachnodactyly.";
RL Nat. Genet. 11:456-458(1995).
[4]
VARIANTS CCA HIS-1114.
MEDLINE=98407789; PubMed=9737771;
RA Babcock D., Gasner C., Francke U., Maslen C.;
RT "A single mutation that results in an asp-to-his substitution and
RT partial exon skipping in a family with congenital contractual
RT arachnodactyly.";
RL Hum. Genet. 103:22-28(1998).
[5]
VARIANTS CCA PHE-1141 AND TRP-1252.
MEDLINE=20259236; PubMed=10797416;
RA Belleh S., Zhou G., Wang M., Der Kaloustian V.M., Pagon R.A.,
RA Godfrey M.;
RT "Two novel fibrillin-2 mutations in congenital contractual
RT arachnodactyly.";
RL Am. J. Med. Genet. 92:7-12(2000).
-!- FUNCTION: STRUCTURAL COMPONENT OF CONNECTIVE TISSUE MICROFIBRILS
THAT BINDS CALCIUM. FIBRILLIN-2-CONTAINING MICROTRILLS REGULATE
THE EARLY PROCESS OF ELASTIC FIBER ASSEMBLY.
-!- DISEASE: DEFECTS IN PBN2 ARE THE CAUSE OF CONGENITAL CONTRACTURAL
ARACHNOACTYLY (CCA) (ALSO KNOWN AS BEALS SYNDROME). CCA IS
PHENOTYPICALLY SIMILAR TO MARFAN SYNDROME, BUT DOES NOT EFFECT THE
AORTA AND THE EYES.
-!- SIMILARITY: Contains 47 EGF-like domains.
-!- SIMILARITY: Contains 7 TGF-beta binding protein (TGFBP) domains.
-!- DATABASE: NAME=Elastic Fiber Homepage; NOTE=Fibrillin 2 page;
WWW="http://ef.musc1.edu/genes/PBN2.htm".
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CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
CC modified and this statement is not removed. Usage by and for commercial
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CC or send an email to license@ebi.ac.uk).
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CC EMBL, U03272; AAA18950.1;
CC EMBL, X62009; NOT_ANNOTATED_CDS.
CC PIR, A54105; A54105.
CC HSRP, P35555; IEMN.
CC Genew, HGNC:3604; PBN2.
CC MIM, 121050;
CC GO, GO:0005578; C:extracellular matrix; TAS.
CC GO, GO:0005201; F:extracellular matrix structural constituent; TAS.
CC GO, GO:0007345; P:embryogenesis and morphogenesis; TAS.
CC GO, GO:0007397; P:histogenesis and organogenesis; TAS.
CC InterPro, IPR000152; Asx_hydroxyl.
CC InterPro, IPR001881; EGF_Ca.
CC InterPro, IPR001438; EGF_II.
CC InterPro, IPR006209; EGF_III.
CC InterPro, IPR002212; Fibril-assoc.
CC Pfam, PF00008; EGF_45.
CC Pfam, PF00683; TB_9.
CC PRINTS, PR00010; EGFBLD.
CC SMART, SM00179; EGF_CA; 43.
CC PROSITE, PS00010; ASX_HYDROXYL; 43.

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DR PROSITE; PS00022; EGF 1; 2.
 DR PROSITE; PS01186; EGF 2; 37.
 DR PROSITE; PS01187; EGF_CA; 42.
 KW Extracellular matrix; Multigene family; Disease mutation; Polymorphism.
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 FT DOMAIN 111 142
 FT DOMAIN 145 176
 FT DOMAIN 176 207
 FT DOMAIN 275 316
 FT DOMAIN 317 358
 FT REPEAT 359 425
 FT DOMAIN 493 533
 FT DOMAIN 534 573
 FT DOMAIN 574 615
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 FT DISULFID 266 300
 FT DISULFID 300 315

PROSITE; PS00022; EGF 1; 2.
 PROSITE; PS01186; EGF 2; 37.
 PROSITE; PS01187; EGF_CA; 42.
 Extracellular matrix; Multigene family; Disease mutation; Polymorphism.
 SIGNAL 1
 CHAIN 28
 DOMAIN 111 142
 DOMAIN 145 176
 DOMAIN 176 207
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 DOMAIN 317 358
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 FT DISULFID 1099 1112 BY SIMILARITY.
 FT DISULFID 1108 1130 BY SIMILARITY.
 FT DISULFID 1125 1139 BY SIMILARITY.
 FT DISULFID 1141 1155 BY SIMILARITY.
 FT DISULFID 1161 1173 BY SIMILARITY.

Query Match 51.3%; Score 40; DB 1; Length 2911;
 Best Local Similarity 58.3%; Pred. No. 2e+02; 4; Indels 0; Gaps 0;
 Matches 7; Conservative 1; Mismatches

QY 1 CRTKPKCDKPR 12
 DB 2341 CRTKPGCNGR 2352

RESULT 10
 ID VEGA_CAVPO STANDARD; PRT; 164 AA.
 AC P26617;
 DT 01-AUG-1992 (Rel. 23, Created)
 DT 01-AUG-1992 (Rel. 23, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability factor) (VPR).
 GN VEGF OR VEGFA.
 OS Cavia porcellus (Guinea pig).
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystriognathi; Cavidae; Cavia.
 NCBI_TaxId=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=ile duct;
 RA Berea B.;
 RL Submitted (JAN-1992) to the EMBL/Genbank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By


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CC similarity).
CC -1 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC or send an email to license@sib.ch).
CC -----
CC EMBL; M84230; AAA37057.1; -.
CC HSSP; P15692; 1VGH.
CC InterPro: IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF_1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF_1.
CC PROSITE; PS00249; PDGF_1; 1.
CC PROSITE; PS50278; PDGF_2; 1.
CC MitoGen; Angiogenesis; Growth factor; Glycoprotein.
CC DISULFID 25 67 BY SIMILARITY.
CC DISULFID 56 101 BY SIMILARITY.
CC DISULFID 60 103 BY SIMILARITY.
CC DISULFID 50 50 INTERCHAIN (BY SIMILARITY).
CC DISULFID 59 59 INTERCHAIN (BY SIMILARITY).
CC CARBOHYD 74 74 N-LINKED (GLCNAC. . .) (POTENTIAL).
CC SEQUENCE 164 AA; 19330 MW; 9EB86A1A9D5DC4 CRC64;
SQ
Query Match 50.0%; Score 39; DB 1; Length 164;
Best Local Similarity 85.7%; Pred. No. 17;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Oy 7 KCDKRR 13
Db 158 RCDKRR 164
RESULT 11
VEGA_BOVIN STANDARD; PRT; 190 AA.
ID VEGA_BOVIN STANDARD; PRT; 190 AA.
AC P15691.
DT 01-APR-1990 (Rel. 14, Created)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
RX MEDLINE=90069608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kiang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic
RT mitogen."
RL Science 246:1306-1309(1989).
RN [2]
RP SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND BETA).
RX MEDLINE=90121225; PubMed=2610687;
RA Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J.,
RA Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
RT "Vascular endothelial growth factor: a new member of the platelet-
RT derived growth factor gene family."
RL Biochem. Biophys. Res. Commun. 165:1198-1206(1989).
RN [3]
RP SEQUENCE OF 27-31.
RX MEDLINE=89286596; PubMed=2735925;
RA Ferrara N., Henzel W.J.;
RT "Pituitary follicular cells secrete a novel heparin-binding growth
RT factor specific for vascular endothelial cells."

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RL Biochem. Biophys. Res. Commun. 161:851-858(1989).
CC -1 FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1 SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1 SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1 ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=Alpha;
CC IsoId=P15691-1; Sequence=Displayed;
CC Name=Beta;
CC IsoId=P15691-2; Sequence=VSP_004613, VSP_004614;
CC -1 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
CC EMBL; M32976; AAA30502.1; -.
CC EMBL; M31836; AAA30804.1; -.
CC EMBL; M33750; AAA30805.1; -.
CC PIR; B40080; B40080.
CC HSSP; P15692; 1VGH.
CC InterPro: IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF_1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF_1.
CC PROSITE; PS00249; PDGF_1; 1.
CC PROSITE; PS50278; PDGF_2; 1.
CC MitoGen; Angiogenesis; Growth factor; Glycoprotein; Signal;
CC Heparin-binding; Alternative splicing; Multigene family.
CC SIGNAL 1 26
CC CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
CC DISULFID 51 93 BY SIMILARITY.
CC DISULFID 82 127 BY SIMILARITY.
CC DISULFID 86 129 BY SIMILARITY.
CC DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
CC DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
CC CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
CC VARSPLIC 139 183 Missing (in isoform Beta).
CC FT FT VARSPLIC 184 184 /FTId=VSP_004613.
CC FT FT VARSPLIC 184 184 R -> K (in isoform Beta).
CC FT FT VARSPLIC 184 184 /FTId=VSP_004614.
CC SQ SEQUENCE 190 AA; 22310 MW; EDBF903E46E24789 CRC64;
Query Match 50.0%; Score 39; DB 1; Length 190;
Best Local Similarity 85.7%; Pred. No. 19;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Oy 7 KCDKRR 13
Db 184 RCDKRR 190
RESULT 12
VEGA_HORSE STANDARD; PRT; 190 AA.
ID VEGA_HORSE STANDARD; PRT; 190 AA.
AC OGGKRO;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).

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GN VEGF OR VEGFA.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OK NCBI_TaxID=9796;
RN [1]
RP SEQUENCE FROM N.A.
RA Miura N., Kawahara K., Nakashima M., Fukumitsu S.,
RA Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;
RT "Cloning of cDNA and high-level expression of equine vascular
RT endothelial growth factor (VEGF).";
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth. Induces endothelial proliferation and vascular
CC permeability (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; AB053350; BAB20890.1; -.
DR HSSP; P15692; 1VGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Multigene family.
FT SIGNAL 1 26
FT CHAIN 1 26
FT DISULFID 27 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 126
FT DISULFID 85 85
FT CARBOHYD 100 100
SQ SEQUENCE 190 AA; 22312 MW; 87B9E161439E5F87 CRC64;

Query Match 50.0%; Score 39; DB 1; Length 190;
Best Local Similarity 85.7%; Pred. No. 19;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 7 KCDKPRR 13
DB 184 RCDKPRR 190

RESULT 13
VEGA_MESAU STANDARD; PRT; 190 AA.
AC 099PSL;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC Mesocricetus.

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OK NCBI_TaxID=10036;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=decidua, and Embryo;
RX MEDLINE=99311285; Pubmed=10382276;
RA Yi X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
RT "Expression of vascular endothelial growth factor (VEGF) and its
RT receptors during embryonic implantation in the golden hamster
RT (Mesocricetus auratus).";
RL Cell Tissue Res. 296:339-349(1999).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; AF063013; AAK00049.1; -.
DR HSSP; P15692; 1VGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Multigene family.
FT SIGNAL 1 26
FT CHAIN 1 26
FT DISULFID 27 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 126
FT DISULFID 85 85
FT CARBOHYD 100 100
SQ SEQUENCE 190 AA; 22276 MW; F00C5A8EA79A465F CRC64;

Query Match 50.0%; Score 39; DB 1; Length 190;
Best Local Similarity 85.7%; Pred. No. 19;
Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 7 KCDKPRR 13
DB 184 RCDKPRR 190

RESULT 14
VEGA_PIG STANDARD; PRT; 190 AA.
AC P49151; Q9GL52;
DT 01-FEB-1996 (Rel. 33, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suidae; Suidae; Sus.

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DT      28-FEB-2003 (Rel. 41, Last sequence update)
DR      VEGF
DE      Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DS      permeability factor) (VPF).
EN      VEGF OR VEGFA.
OS      Canis familiaris (Dog).
OC      Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
CC      Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
CX      NCBI_TaxID=9615;
RN      [1]
RP      SEQUENCE FROM N.A. (ISOFORM VEGF-188).
RX      MEDLINE=20125516; PubMed=1061874;
RA      Scheidegger P., Weiglhofer W., Suarez S., Kaser-Holtz B., Steiner R.,
RT      Balmer-Hofer K., Jaussel R.;
RL      "vascular endothelial growth factor (VEGF) and its receptors in tumor-
RT      bearing dogs." ;
RL      Biol. Chem. 380:1449-1454(1999) .
RN      [2]
RP      SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).
RC      TISSUE=Heart;
RL      Jungling U., Roque R.S.;
RL      Submitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
CC      -1 FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC      endothelial cell growth. It induces endothelial cell
CC      proliferation, promotes cell migration, inhibits apoptosis, and
CC      induces permeabilization of blood vessels. It binds to the
CC      VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC      heparin (By similarity).
CC      -1 SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC      with PlGF (By similarity).
CC      -1 SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC      to the extracellular matrix unless released by heparin (By
CC      similarity).
CC      -1 ALTERNATIVE PRODUCTS:
CC      Event=Alternative splicing; Named isoforms=3;
CC      Comment=Additional isoforms seem to exist;
CC      Name=VEGF-188;
CC      IsoId=O9MVY3-1; Sequence=Displayed;
CC      Name=VEGF-182;
CC      IsoId=O9MVY3-2; Sequence=VSP_004617;
CC      Name=VEGF-164;
CC      IsoId=O9MVY3-3; Sequence=VSP_004615;
CC      -1 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
-----
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-----
DR      EMBL; AJ133758; CAB82426.1; -
DR      EMBL; AF133250; AAD29684.1; -
DR      EMBL; AF133249; AAD29683.1; -
DR      EMBL; AF133248; AAD29682.1; -
DR      HSSP; P15692; IIVG.
DR      InterPro; IPRO00072; PD_growth_factor.
DR      Pfam; PF00341; PDGF_1.
DR      ProDom; PD001629; PD_growth_factor; 1.
DR      SMART; SM00181; PDGF; 1.
DR      PROSITE; PS00249; PDGF_1; 1.
DR      PROSITE; PSS0278; PDGF_2; 1.
KW      Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW      Heparin-binding; Alternative splicing; Multigene family.
FT      SIGNAL          1         26
FT      CHAIN           27        214
FT      DISULFID        51         93
FT      DISULFID        82        127
FT      DISULFID        86        129
FT      DISULFID        76         76
FT      DISULFID        85         85
FT      CARBOHYD       100        100
FT

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FT	VARSPLIC	140	140	K -> N (in isoform VEGF-164).
FT	VARSPLIC	141	164	/FTId=VSP_004615.
FT	VARSPLIC	159	164	Missing (in isoform VEGF-164).
FT	VARSPLIC	159	164	/FTId=VSP_004616.
FT	VARSPLIC	159	164	Missing (in isoform VEGF-182).
FT	CONFLICT	143	143	/FTId=VSP_004617.
FT	CONFLICT	161	161	I -> V (IN REF. 2).
FT	CONFLICT	161	161	P -> S (IN REF. 2).
SQ	SEQUENCE	214 AA;	25175 MW;	0AC980A158C44B27 CRC64;

Query Match 50.0%; Score 39; DB 1; Length 214;
 Best Local Similarity 85.7%; Pred. No. 22;
 Matches 6; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Oy 7 KCDKPRR 13
 :|||||
 Db 208 RCDKPRR 214

Search completed: January 30, 2004, 11:41:03
 Job time : 4 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:33:38 ; Search time 13.4667 Seconds
(without alignments)
249.110 Million cell updates/sec

Title: US-09-266-543-3

Perfect score: 78

Sequence: 1 CRTPKCKDKPPR 13

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues

Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0

Maximum DB seq length: 2000000000
Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

SPTREMBL_23:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriap:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	51.5	66.0	65	6 Q8M1NO	Q8m1no capra hircu
2	51.5	66.0	118	6 Q9M2B1	Q9m2b1 ovis aries
3	50	64.1	148	13 Q42571	Q42571 xenopus lae
4	47	60.3	379	4 Q9P270	Q9p270 homo sapien
5	43	55.1	102	3 Q94005	Q94005 candida alb
6	43	55.1	259	5 Q8MK06	Q8mk06 drosophila
7	43	55.1	614	16 Q98212	Q98212 rhizobium l
8	42	53.8	72	16 Q8U547	Q8u547 agrobacteri
9	42	53.8	227	16 Q8YU18	Q8yu18 anabaena sp
10	42	53.8	262	12 Q8QRW6	Q8qrw6 chimpanzee
11	41	52.6	139	10 Q39795	Q39795 gossypium h
12	41	52.6	139	10 Q39787	Q39787 gossypium h
13	41	52.6	144	13 Q73822	Q73822 brachydanio
14	41	52.6	370	5 Q8SX23	Q8sx23 drosophila
15	41	52.6	439	5 Q9VD04	Q9vd04 drosophila
16	41	52.6	501	10 Q9FHMO	Q9fhmo arabidopsis

17	41	52.6	794	17 Q8TNE0	Q8tne0 methanosarc
18	41	52.6	1080	16 Q84688	Q84688 chlamydia t
19	40	51.3	162	10 Q8W187	Q8w187 prunus dulc
20	40	51.3	166	11 Q9CV06	Q9cv06 mus musculu
21	40	51.3	169	10 Q8H970	Q8h970 prunus salic
22	40	51.3	196	4 Q8TEH0	Q8teh0 homo sapien
23	40	51.3	207	10 Q8GTP9	Q8gtp9 prunus salic
24	40	51.3	211	10 Q8GVN5	Q8gvn5 arabidopsis
25	40	51.3	216	2 Q9R3N0	Q9r3n0 escherichia
26	40	51.3	216	9 Q80201	Q80201 methanobact
27	40	51.3	255	4 Q8N880	Q8n880 homo sapien
28	40	51.3	351	10 Q9LSC9	Q9lsc9 arabidopsis
29	40	51.3	403	10 Q9CAT0	Q9cat0 arabidopsis
30	40	51.3	406	10 Q8H216	Q8h216 oryza sativ
31	40	51.3	414	10 Q9LRS2	Q9lrs2 arabidopsis
32	40	51.3	417	10 Q9SS14	Q9ss14 arabidopsis
33	40	51.3	468	4 Q8TF47	Q8tf47 homo sapien
34	40	51.3	485	10 Q8LD24	Q8ld24 arabidopsis
35	40	51.3	495	5 Q9V9F2	Q9v9f2 drosophila
36	40	51.3	497	5 Q9V9F1	Q9v9f1 drosophila
37	40	51.3	498	5 Q9NAE3	Q9nae3 caenorhabdi
38	40	51.3	526	10 Q9LFT1	Q9lft1 arabidopsis
39	40	51.3	2906	11 Q9WDH9	Q9wdh9 ratius norv
40	39	50.0	64	6 Q8M119	Q8m119 ovis aries
41	39	50.0	88	10 Q944D2	Q944d2 prunus mume
42	39	50.0	102	6 Q9XTG1	Q9xtg1 macaca fasc
43	39	50.0	102	11 Q63672	Q63672 ratius norv
44	39	50.0	106	11 Q8BT49	Q8bt49 mus musculu
45	39	50.0	109	6 Q8M1N1	Q8m1n1 capra hircu

ALIGNMENTS

RESULT 1
ID Q8M1NO PRELIMINARY; PRT; 65 AA.

AC Q8M1NO; 01-OCT-2002 (TREMBLrel. 22, Created)
DT 01-OCT-2002 (TREMBLrel. 22, Last sequence update)
DE 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DB Vascular endothelial growth factor 121 (Fragment).
OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea; Bovidae; Caprinae; Capra.
NCBI_TaxID=9925;
RN [1]
RP SEQUENCE FROM N.A.
RC Tissue=Corpus luteum;
RA Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.;
RT "Changes of Messenger RNAs Encoding Vascular Endothelial Growth Factor and Its Receptors during the Development and Maintenance of Caprine Corpora Lutea."
RT Submitted (May-2002) to the EMBL/Genbank/DBJ databases.
DR EMBL: AY114353; AAM7674.1; -
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF_1.
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART: SM00141; PDGF_1.
DR PROSITE: PSS0278; PDGF_2; 1.
FT NON TER
SQ
SEQUENCE 65 AA; 7562 MW; BA3E384364B05E3 CRC64;

Query Match 66.0%; Score 51.5; DB 6; Length 65;
Best Local Similarity 61.1%; Pred. No. 0.2;
Matches 11; Conservative 0; Mismatches 2; Indels 5; Gaps 1;

QY 1 CRTPKCKDKPPR 13
DB 48 CRPKDKARCKDKPPR 65

RESULT 2

Q9MZB1 PRELIMINARY; PRT; 118 AA.
 ID Q9MZB1
 AC Q9MZB1
 DT 01-OCT-2000 (TRENBLrel. 15, Created)
 DT 01-OCT-2000 (TRENBLrel. 15, Last sequence update)
 DT 01-MAR-2003 (TRENBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 GN VEGF.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Caprinae; Ovis.
 NX NCBI_TaxId=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Placental artery endothelium;
 RA Zheng J., Tsol S.C., Magness R.R.;
 RT "Growth factor expression in ovine fetal placental artery endothelial
 cells";
 RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF250375; AAF75258.1; -.
 DR HSSP; P49763; 1FZV.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON TER 1
 SQ SEQUENCE 118 AA; 13931 MW; 757DC53A56378A6 CRC64;

Query Match 66.0%; Score 51.5; DB 6; Length 118;
 Best Local Similarity 61.1%; Pred. No. 0.34;
 Matches 11; Conservative 0; Mismatches 2; Indels 5; Gaps 1;
 QY 1 CRTK-----PEKCDKPRR 13
 DB 101 CRPKDKARQEKCDKPRR 118

RESULT 3

Q42571 PRELIMINARY; PRT; 148 AA.
 ID Q42571
 AC Q42571
 DT 01-JAN-1998 (TRENBLrel. 05, Created)
 DT 01-JAN-1998 (TRENBLrel. 05, Last sequence update)
 DT 01-MAR-2003 (TRENBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor 122.
 GN VEGF.
 OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidoidea; Pipidae;
 OC Xenopodidae; Xenopus.
 NX NCBI_TaxId=8355;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
 RT "Neovascularization of the xenopus embryo";
 RL Dev. Dyn. 0:0-0(1997).
 DR EMBL; AF008593; AAB63679.1; -.
 DR HSSP; P49763; 1FZV.
 DR InterPro; IPR002400; GF_cytknot.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR PRINTS; PR00438; GFCYSKNOT.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 148 AA; 17234 MW; 4AD153CA2F8B1B95 CRC64;

Query Match 64.1%; Score 50; DB 13; Length 148;

Best Local Similarity 66.7%; Pred. No. 0.73;
 Matches 8; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

QY 2 RTPEKCDKPRR 13
 DB 137 KSKQEKCEKPRR 148

RESULT 4

Q9P2T0 PRELIMINARY; PRT; 379 AA.
 ID Q9P2T0
 AC Q9P2T0
 DT 01-OCT-2000 (TRENBLrel. 15, Created)
 DT 01-OCT-2000 (TRENBLrel. 15, Last sequence update)
 DT 01-MAR-2003 (TRENBLrel. 23, Last annotation update)
 DE THEG protein (Testicular haploid expressed gene).
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.
 NX NCBI_TaxId=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=20270174; PubMed=10747865;
 RA Yanaka N., Kobayashi K., Wakimoto K., Yamada E., Imai Y.,
 RA Mori C.;
 RT "Insertional mutation of the murine kistmo locus caused a defect in
 spermatogenesis";
 RL J. Biol. Chem. 275:14791-14794(2000).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA Mannan A.U., Luecke K., Burfeind P., Engel W.;
 RT "Molecular cloning, expression studies and chromosomal localization of
 human homologue of THEG";
 RL Submitted (MAY-2000) to the EMBL/GenBank/DBJ databases.
 RN [3]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testis;
 RA Strausberg R.;
 RL Submitted (APR-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AB033128; BAA33718.1; -.
 DR EMBL; AF268610; AAG17663.1; -.
 DR EMBL; BC028574; AAH28574.1; -.
 DR Genew; HGNC:13706; THEG.
 DR InterPro; IPR006623; THEG.
 DR SMART; SM00705; THEG; 6
 SQ SEQUENCE 379 AA; 43443 MW; DE1B6397A4FPA875 CRC64;

Query Match 60.3%; Score 47; DB 4; Length 379;
 Best Local Similarity 63.6%; Pred. No. 5.5;
 Matches 7; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 2 RTPEKCDKPRR 12
 DB 366 KASPEKCDQPR 376

RESULT 5

Q94005 PRELIMINARY; PRT; 102 AA.
 ID Q94005
 AC Q94005
 DT 01-MAY-1999 (TRENBLrel. 10, Created)
 DT 01-MAY-1999 (TRENBLrel. 10, Last sequence update)
 DT 01-MAY-1999 (TRENBLrel. 10, Last annotation update)
 DE Questionable ori.
 GN CA20C1.18C.
 OS Candida albicans (Yeast).
 OC Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
 OC Saccharomycetales; mitosporic Saccharomycetales; Candida.
 NX NCBI_TaxId=5476;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=1161;
 RA Oliver K., Harris D.;

RL Submitted (NOV-1998) to the EMBL/Genbank/DBJ databases.
 RN [2]
 RP SEQUENCE FROM N.A.
 RC STRAIN=1161;
 RA Barrell B.G., Rajandream M.A.;
 RL Submitted (NOV-1998) to the EMBL/Genbank/DBJ databases.
 RN [3]
 RP SEQUENCE FROM N.A.
 RC STRAIN=1161;
 RX MEDLINE=97435544; PubMed=9290243;
 RA Tate E., Simon M.C., King S., Brown A.J., Gow N.A.R., Shaw D.J.;
 RT "A Candida albicans Genome Project: Cosmid Contigs, Physical Mapping,
 and Gene Isolation";
 RL Fungal Genet. Biol. 21:308-314(1997).
 DR EMBL: AL033391; CAA21939.1; -;
 SQ SEQUENCE 102 AA; 11151 MW; 53F29CF740CC3D0F CRC64;
 QY Query Match 55.1%; Score 43; DB 3; Length 102;
 Best Local Similarity 77.8%; Pred. No. 7.9;
 Matches 7; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
 Db 89 CRRKCKCD 97
 RESULT 6
 OSMK06 PRELIMINARY; PRT; 259 AA.
 AC OSMK06;
 DT 01-OCT-2002 (TREMBlrel. 22, Created)
 DT 01-OCT-2002 (TREMBlrel. 22, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE CG30363-PA
 GN CG30363 OR CG2149.
 OS Drosophila melanogaster (Fruit fly).
 OC Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
 OC Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
 OC Ephydroidea; Drosophilidae; Drosophila.
 OX NCBI_TaxID=7227;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Berkley;
 RX MEDLINE=20196006; PubMed=10731132;
 RA Adams M.D., Celniker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
 RA Amaratides P.G., Scherer S.E., Li P.W., Hoskins R.A., Galie R.F.,
 RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
 RA Sutton G.G., Wortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
 RA Brandon R.C., Rogers Y.-H.C., Blazej R.G., Champe M., Pfeiffer B.D.,
 RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Miklos G.L.G.,
 RA Abril J.F., Abmayyan A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
 RA Ballew R.M., Basu A., Baxendale U., Bayraktaroglu L., Beasley E.M.,
 RA Beeson K.Y., Benos P.V., Berman B.P., Bhattacharya D., Bolshakov S.,
 RA Botvina D., Botchan M.R., Bouck J., Brodeur P., Brocetti P.,
 RA Burdick K.C., Busam D.A., Butler H., Cadiou E., Center A., Chandra I.,
 RA Cherry J.M., Cawley S., Dahlke C., Daventport L.B., Davies P.,
 RA de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
 RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
 RA Dudin K.U., Evangelista C.C., Ferraz C., Ferreira S., Fleischmann W.,
 RA Foadik A., Gong F., Gorrell J.H., Gu Z., Guan P., Harris M.,
 RA Harris N.L., Harey D., Heiman T.J., Hernandez J.R., Houck J.,
 RA Hoeltin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
 RA Jalali M., Kalush F., Karpen G.H., Ke Z., Kemison J.A., Ketchum K.A.,
 RA Kimmel B.B., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
 RA Laesoe P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
 RA Liu X., Mattei B., McIntosh T.C., McLeod M.P., McPherson D.,
 RA Merkulov G., Milshina N.V., Mobarry C., Morris J., Moshrefi A.,
 RA Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
 RA Nelson D.R., Nelson K.A., Nixon K., Nussekm D.R., Paclab J.M.,
 RA Palazzolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
 RA Reinhart K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
 RA Shue B.C., Siden-Kiamos I., Simpson M., Skupski M.P., Smith T.,

RA Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
 RA Svirskae R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
 RA Wang Z.-Y., Wassarman D.A., Weinstein G.M., Weissbach J.,
 RA Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A.,
 RA Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
 RA Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O.,
 RA Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
 RT "The genome sequence of Drosophila melanogaster";
 RL Science 287:2185-2195(2000).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA Celniker S.E., Adams M.D., Kronmiller B., Wan K.H., Holt R.A.,
 RA Evans C.A., Gocayne J.D., Amaratides P.G., Brandon R.C., Rogers Y.,
 RA Carlson J., An H., Baldwin D., Banzon J., Beeson K.Y., Busam D.A.,
 RA Carlson J.W., Center A., Champe M., Daventport L.B., Dietz S.M.,
 RA Dodson K., Dorsett V., Doup L.E., Doyle C., Dresnek D., Farfan D.,
 RA Ferreira S., Frise E., Galie R.F., Gary N.S., George R.A.,
 RA Gonzalez M., Houck J., Hoskins R.A., Hoeltin D., Howland T.J.,
 RA Ibegwam C., Jalali M., Kruse D., Li P., Mattei B., Moshrefi A.,
 RA McIntosh T.C., Moy M., Murphy B., Nelson C., Nelson K.A., Nunoo J.,
 RA Paclab J., Paragas V., Park S., Patel S., Pfeiffer B., Pfeiffer F.,
 RA Phouanavong S., Pittman G.S., Puri V., Richards S., Scheeler F.,
 RA Stapleton M., Strong R., Svirskae R., Tector C., Tyler D.,
 RA Williams S.M., Zaveri J.S., Smith H.O., Venter J.C., Rubin G.M.;
 RT "Sequencing of Drosophila melanogaster genome";
 RL Submitted (MAR-2000) to the EMBL/Genbank/DBJ databases.
 RN [3]
 RP SEQUENCE FROM N.A.
 RA Miera S., Crosby M.A., Matthews B.B., Bayraktaroglu L., Campbell K.,
 RA Hradecky P., Huang Y., Kaminker J.S., Prochuk S.E., Smith C.D.,
 RA Tupy J.L., Bergman C., Berman B., Carlson J.W., Celniker S.E.,
 RA Clump M., Drysdale R., Emmert D., Frise E., de Grey A., Harris N.,
 RA Kronmiller B., Marshall B., Millburn G., Richter J., Russo S.,
 RA Seale S.M.J., Smith E., Shu S., Smutnick F., Whitfield E.,
 RA Ashburner M., Gelbart W.M., Rubin G.M., Mungall C.J., Lewis S.E.;
 RT "Annotation of Drosophila melanogaster genome";
 RL Submitted (MAR-2000) to the EMBL/Genbank/DBJ databases.
 RN [4]
 RP SEQUENCE FROM N.A.
 RA Adams M.D., Celniker S.E., Gibbs R.A., Rubin G.M., Venter C.J.;
 RL Submitted (MAR-2000) to the EMBL/Genbank/DBJ databases.
 RN [5]
 RP SEQUENCE FROM N.A.
 RA FlyBase;
 RL Submitted (SEP-2002) to the EMBL/Genbank/DBJ databases.
 DR EMBL: AE003837; AAG6842.1; -;
 DR FlyBase: FBgn0050363; CG30363.
 DR InterPro: IPR006611; DUF_DM6.
 DR SMART: SMO0689; DM6; 1.
 SQ SEQUENCE 259 AA; 30652 MW; E2CA91334505031B CRC64;
 QY Query Match 55.1%; Score 43; DB 5; Length 259;
 Best Local Similarity 70.0%; Pred. No. 18;
 Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 Db 178 RPKCKPR 187
 RESULT 7
 O98212 PRELIMINARY; PRT; 614 AA.
 AC O98212;
 DT 01-OCT-2001 (TREMBlrel. 18, Created)
 DT 01-OCT-2001 (TREMBlrel. 18, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE DNA methyltransferase.
 GN MLL9056.
 OS Rhizobium loti (Mesorhizobium loti).
 OC Plasmid pMLA.
 OC Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
 OC Phyllobacteriaceae; Mesorhizobium.

OX NCBI_TaxID=381;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN-MAFF303099;
 RX MEDLINE=2108230; PubMed=11214968;
 RA Kaneko T., Nakamura Y., Sato S., Asamizu E., Kato T., Sasamoto S.,
 RA Watanabe A., Idehara K., Ishikawa A., Kawashima K., Kimura T.,
 RA Kishida Y., Kiyokawa C., Kohara M., Matsumoto M., Matsuno A.,
 RA Mochizuki Y., Nakayama S., Nakazaki N., Shimo S., Sugimoto M.,
 RA Takuchi C., Yamada M., Tabata S.;
 RT "Complete genome structure of the nitrogen-fixing symbiotic bacterium
 RT Mesorhizobium loti.";
 RL DNA Res. 7:331-338(2000).
 DR EMBL; AP003015; BAB54474.1; -;
 DR InterPro; IPR001091; CNA_Mettransf.
 DR InterPro; IPR002285; D21N6_mtfase.
 DR InterPro; IPR002941; N6/N4_Mtase.
 DR Pfam; PF01555; N6_N4_Mtase; 1.
 DR PRINTS; PR00506; D21N6MTFRASE.
 DR PRINTS; PR00508; S21N4MTFRASE.
 DR PROSITE; PS00092; N6_MTASE; 1.
 KW Transferase; Methyltransferase; Plasmid; Complete proteome.
 SQ SEQUENCE 614 AA; 69230 MW; 14507EDDAE0FECE CRC64;

Query Match 55.1%; Score 43; DB 16; Length 614;
 Best Local Similarity 72.7%; Pred. No. 40;
 Matches 8; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 3 TKPEKCDKPRR 13
 :|||:|
 Db 565 SKPEKSKPRR 575

RESULT 8
 Q8U547 PRELIMINARY; PRT; 72 AA.
 AC Q8U547;
 DT 01-JUN-2002 (TRENBLrel. 21, Created)
 DT 01-JUN-2002 (TRENBLrel. 21, Last sequence update)
 DE 01-JUN-2002 (TRENBLrel. 21, Last annotation update)
 DE AGR_C 4274P.
 GN AGR_C 4274.
 OS Agrobacterium tumefaciens (strain C58 / ATCC 33970).
 OC Bacteria; Proteobacteria; Alphaproteobacteria; Rhizobiales;
 OC Rhizobiaceae; Rhizobium.
 OX NCBI_TaxID=176299;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=21608551; PubMed=11743194;
 RA Goodner B., Hinkle G., Gattung S., Miller N., Blanchard M.,
 RA Quirillo B., Goldman B.S., Cao Y., Akenazi M., Halling C., Mullin L.,
 RA Hounel K., Gordon J., Vaudin M., Iatchouk O., Epp A., Liu F.,
 RA William C., Allinger M., Doughty D., Scott C., Lappas C., Markelz B.,
 RA Flanagan C., Crowell C., Gursen J., Lomo C., Sear C., Strub G.,
 RA Cielo C., Slater S.;
 RT "Genome sequence of the plant pathogen and biotechnology agent
 RT Agrobacterium tumefaciens C58.";
 RL Science 294:2323-2328(2001).
 DR EMBL; AB008150; AAK8095.1; -;
 SQ SEQUENCE 72 AA; 8478 MW; 73D1EABF0EDDABD CRC64;

Query Match 53.8%; Score 42; DB 16; Length 72;
 Best Local Similarity 53.8%; Pred. No. 8.4;
 Matches 7; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

QY 1 CRTPEKCDKPRR 13
 :|||:|
 Db 53 COTKPRCDKPRR 65

RESULT 9
 Q8YU18

ID Q8YU18 PRELIMINARY; PRT; 227 AA.
 AC Q8YU18;
 DT 01-MAR-2002 (TRENBLrel. 20, Created)
 DT 01-MAR-2002 (TRENBLrel. 20, Last sequence update)
 DE 01-MAR-2002 (TRENBLrel. 20, Last annotation update)
 DE Hypothetical protein A1R2543.
 GN A1R2543.
 OS Anabaena sp. (strain PCC 7120).
 OC Bacteria; Cyanobacteria; Nostocales; Nostocaceae; Nostoc.
 OX NCBI_TaxID=103690;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=21595285; PubMed=11759840;
 RA Kaneko T., Nakamura Y., Wolk C.P., Kuritz T., Sasamoto S.,
 RA Watanabe A., Iriuchi M., Ishikawa A., Kawashima K., Kimura T.,
 RA Kishida Y., Kohara M., Matsumoto M., Matsuno A., Muraki A.,
 RA Nakazaki N., Shimo S., Sugimoto M., Takazawa M., Yamada M.,
 RA Yasuda M., Tabata S.;
 RT "Complete genomic sequence of the filamentous nitrogen-fixing
 RT cyanobacterium Anabaena sp. strain PCC 7120.";
 RL DNA Res. 8:205-213(2001).
 DR EMBL; AP003589; BAB74242.1; -;
 KW Hypothetical protein; Complete proteome.
 SQ SEQUENCE 227 AA; 27026 MW; 7A12DD8831B852EB CRC64;

Query Match 53.8%; Score 42; DB 16; Length 227;
 Best Local Similarity 58.3%; Pred. No. 24;
 Matches 7; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 2 RTPEKCDKPRR 13
 :|||:|
 Db 210 RLPRDQKPRR 221

RESULT 10
 Q8QRW6 PRELIMINARY; PRT; 262 AA.
 AC Q8QRW6;
 DT 01-JUN-2002 (TRENBLrel. 21, Created)
 DT 01-JUN-2002 (TRENBLrel. 21, Last sequence update)
 DE 01-JUN-2002 (TRENBLrel. 21, Last annotation update)
 DE UL133.
 OS Chimpanzee cytomegalovirus.
 OC Viruses; dsDNA viruses, no RNA stage; Herpesviridae;
 OC Betaherpesvirinae; Cytomegalovirus.
 OX NCBI_TaxID=188763;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Davison A.J., Akter P., Dolan A., Wright K.M., Addison C.,
 RA Alexander D.J., Hayward G.S., McGeoch D.J.;
 RT "The human cytomegalovirus genome revisited.";
 RL Submitted (FEB-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF480884; AAM00758.1; -;
 SQ SEQUENCE 262 AA; 27884 MW; A055E20515A26572 CRC64;

Query Match 53.8%; Score 42; DB 12; Length 262;
 Best Local Similarity 63.6%; Pred. No. 27;
 Matches 7; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

QY 3 TKPEKCDKPRR 13
 :|||:|
 Db 157 TKPEKCDKPRR 167

RESULT 11
 Q39795 PRELIMINARY; PRT; 139 AA.
 ID Q39795;
 AC Q39795;
 DT 01-NOV-1996 (TRENBLrel. 01, Created)
 DT 01-NOV-1996 (TRENBLrel. 01, Last sequence update)
 DT 01-OCT-2002 (TRENBLrel. 22, Last annotation update)
 DE 2S albumin storage protein precursor.
 GN MATS-A.


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OS Gossypium hirsutum (Upland cotton).
OC Eukaryota; Viridiplantae; Streptophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC eucosids II; Malvales; Malvaceae; Malvoideae; Gossypium.
OX NCBI_TaxID=3635;
RN (1)
RP SEQUENCE FROM N.A.
RC TISSUE=Cotyledon;
RA Galau G.A., Mang H.Y.-C., Hughes D.W.;
RT "Cotton Mats-A (Cl64) gene and Mats-D cDNAs encoding methionine-rich
RT 2S albumin storage proteins.";
RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.
DR EMBL; M86213; AAA33066.1; -.
DR InterPro; IPR003612; AAI.
DR Pfam; PF00234; tryP_alpha_amy1; 1.
DR SMART; SM00499; AAI; 1.
KW Signal.
FT SIGNAL. 1 20 POTENTIAL.
FT CHAIN 33 59 2S ALBUMIN STORAGE PROTEIN.
FT CHAIN 64 139 2S ALBUMIN STORAGE PROTEIN.
SQ SEQUENCE 139 AA; 15700 MW; 02ACE24FFFC9EF90 CRC64;

Query Match
Best Local Similarity 52.6%; Score 41; DB 10; Length 139;
Matches 6; Conservative 2; Mismatches 5; Indels 0; Gaps 0;

OY 1 CRTPEKCDKPRR 13
DB 124 CEMEBCRCTPISR 136

RESULT 12
O39787 PRELIMINARY; PRT; 139 AA.
AC Q39787;
DT 01-NOV-1996 (TREMBLrel. 01, Created)
DT 01-NOV-1996 (TREMBLrel. 01, Last sequence update)
DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
DE 2S albumin storage protein precursor.
GN MATS-D.
OS Gossypium hirsutum (Upland cotton).
OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; Rosidae;
OC eucosids II; Malvales; Malvaceae; Malvoideae; Gossypium.
OX NCBI_TaxID=3635;
RN (1)
RP SEQUENCE FROM N.A.
RC STRAIN=Coker 201; TISSUE=Cotyledon;
RA Galau G.A., Mang H.Y.-C., Hughes D.W.;
RT "Cotton Mats (Cl64) gene and cDNAs encoding a methionine-rich 2S
RT albumin storage protein.";
RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.
DR EMBL; M83301; AAA33049.1; -.
DR InterPro; IPR003612; AAI.
DR Pfam; PF00234; tryP_alpha_amy1; 1.
DR SMART; SM00499; AAI; 1.
KW Signal.
FT SIGNAL. 1 20 POTENTIAL.
FT CHAIN 33 59 2S ALBUMIN STORAGE PROTEIN.
FT CHAIN 64 139 2S ALBUMIN STORAGE PROTEIN.
SQ SEQUENCE 139 AA; 15831 MW; 43ACF33FE97D19B4 CRC64;

Query Match
Best Local Similarity 46.2%; Score 41; DB 10; Length 139;
Matches 6; Conservative 2; Mismatches 5; Indels 0; Gaps 0;

OY 1 CRTPEKCDKPRR 13
DB 124 CEMEBCRCTPISR 136

RESULT 13
O73822 PRELIMINARY; PRT; 144 AA.
AC O73822;
DT 01-AUG-1998 (TREMBLrel. 07, Created)
DT 01-AUG-1998 (TREMBLrel. 07, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor 121 isoform.
GN VEGF.
OS Brachydanio rerio (Zebrafish) (Danio rerio).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.
OX NCBI_TaxID=7955;
RN (1)
RP SEQUENCE FROM N.A.
RA Liang D., Ge R.;
RT "Vascular endothelial growth factor 121 isoform from zebrafish, Danio
RT rerio.";
RL Submitted (APR-1998) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF059661; AAC14713.1; -.
DR HSSP; P49763; 1FZV.
DR ZFIN; ZDB-GENE-990415-273; vegf.
DR InterPro; IPR002400; GF_cyknoc.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PR00438; GFCSKNOT.
DR PRINTS; PR001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 144 AA; 16479 MW; 3036A7407AA0832 CRC64;

Query Match
Best Local Similarity 54.5%; Score 41; DB 13; Length 144;
Matches 6; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

OY 2 RTPEKCDKPR 12
DB 134 KAKRCKRCKPR 144

RESULT 14
O85X23 PRELIMINARY; PRT; 370 AA.
AC O85X23;
DT 01-JUN-2002 (TREMBLrel. 21, Created)
DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE RE41968P.
GN CG4413.
OS Drosophila melanogaster (Fruit fly).
OC Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
OC Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
OC Ephydroidea; Drosophilidae; Drosophila.
OX NCBI_TaxID=7227;
RN (1)
RP SEQUENCE FROM N.A.
RC STRAIN=Berkley;
RA Stapleton M., Brokstein P., Hong L., Agbayani A., Carlson J.,
RA Champagne M., Chavez C., Dorsett V., Dresnek D., Farfan D., Frise B.,
RA George R., Gonzalez M., Guarin H., Krommiller B., Li P., Liao G.,
RA Miranda A., Mungall C.J., Nunoo J., Pacleb J., Pargae V., Park S.,
RA Patel S., Phouanavong S., Wan K., Yu C., Lewis S.B., Rubin G.M.,
RA Ceiliker S.;
RL Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY075490; AAL68300.1; -.
DR FlyBase; FBgn0038767; CG4413.
DR InterPro; IPR007087; znf_C2H2.
DR Pfam; PF00096; zf_C2H2_2.
DR ProDom; PD000003; znf_C2H2_1.
DR SMART; SM00355; znf_C2H2_2.
DR PROSITE; PS00028; ZINC_FINGER_C2H2_1; 2.
DR PROSITE; PS50157; ZINC_FINGER_C2H2_2; 2.
KW Metal-binding; zinc; zinc-finger.

```

SQ SEQUENCE 370 AA; 42003 MW; .2F4D54C9E9B6B84 CRC64;
 Query Match 52.6%; Score 41; DB 5; Length 370;
 Best Local Similarity 70.0%; Pred. No. 54;
 Matches 7; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 4 KPEKCDKPRR 13
 |||||:
 DB 233 KPEKCDRSGR 242

RESULT 15
 QVDDQ4 PRELIMINARY; PRT; 439 AA.
 AC QVDDQ4;
 DT 01-MAY-2000 (TREMBLrel. 13, Created)
 DT 01-OCT-2002 (TREMBLrel. 23, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE CG4413 protein.
 GN CG4413.
 OS Drosophila melanogaster (Fruit fly).
 OC Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
 OC Neoptera; Endopterygota; Diptera; Brachycera; Muscomorpha;
 OC Ephydroidea; Drosophilidae; Drosophila.
 NCBI_TaxID=7227;
 [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Berkley;
 RX MEDLINE=20196006; PubMed10731132;
 RA Adams M.D., Celinker S.E., Holt R.A., Evans C.A., Gocayne J.D.,
 RA Amaralides P.G., Scher S.E., Li P.W., Hoskins R.A., Galie R.F.,
 RA George R.A., Lewis S.E., Richards S., Ashburner M., Henderson S.N.,
 RA Sutton R.G., Mortman J.R., Yandell M.D., Zhang Q., Chen L.X.,
 RA Brandon R.C., Rogers Y.-H.C., Blazek R.G., Champe M., Pfeiffer B.D.,
 RA Wan K.H., Doyle C., Baxter E.G., Helt G., Nelson C.R., Milos G.L.G.,
 RA Abril J.F., Abdayani A., An H.-J., Andrews-Pfannkoch C., Baldwin D.,
 RA Ballew R.M., Basu A., Baxendale J., Bayraktaroglu L., Beasley E.M.,
 RA Beeson K.Y., Benos P.V., Berman B.P., Bhandari D., Bolshakov S.,
 RA Borova D., Botchan M.R., Bouck J., Brokstein P., Brotter P.,
 RA Burris K.C., Busan D.A., Butler H., Cadiou E., Center A., Chandra I.,
 RA Cherry J.M., Cawley S., Dahlke C., Davenport L.B., Davies P.,
 RA de Pablos B., Delcher A., Deng Z., Mays A.D., Dew I., Dietz S.M.,
 RA Dodson K., Doup L.E., Downes M., Dugan-Rocha S., Dunkov B.C., Dunn P.,
 RA Durbin K.J., Evangelista C.C., Ferraz C., Ferreira S., Fleischmann W.,
 RA Foster C., Gong F., Gorrell J.H., Garg N.S., Gelbart W.M., Glaeser K.,
 RA Glöckner A., Gong P., Gorrell J.H., Gu Z., Guan P., Harris M.,
 RA Harris N.L., Harvey D., Heiman T.T., Hernandez J.R., Houck J.,
 RA Hostin D., Houston K.A., Howland T.J., Wei M.-H., Ibegwam C.,
 RA Jafarizadeh M., Kalush F., Karpen G.H., Ke Z., Kennison J.A., Ketchum K.A.,
 RA Kimmel B.E., Kodira C.D., Kraft C., Kravitz S., Kulp D., Lai Z.,
 RA Laeko P., Lei Y., Levitsky A.A., Li J., Li Z., Liang Y., Lin X.,
 RA Liu X., Matei B., McIntosh T.C., McLeod M.P., McPherson D.,
 RA Mervulov G., Milshina N.V., Modary C., Morris J., Moshrefi A.,
 RA Mount S.M., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
 RA Nelson D.R., Nelson K.A., Nixon K., Nuskern D.R., Pacle J.M.,
 RA Palazolo M., Pittman G.S., Pan S., Pollard J., Puri V., Reese M.G.,
 RA Reinert K., Remington K., Saunders R.D.C., Scheeler F., Shen H.,
 RA Shue B.C., Sidenlams I., Simpson M., Skupski M.P., Smith T.,
 RA Spier E., Spradling A.C., Stapleton M., Strong R., Sun E.,
 RA Svitek R., Tector C., Turner R., Venter E., Wang A.H., Wang X.,
 RA Wang Z.-Y., Wassarman D.A., Weinstein G.M., Weisenbach J.,
 RA Williams S.M., Woodage T., Worley K.C., Wu D., Yang S., Yao Q.A., Zheng L.,
 RA Ye J., Yeh R.-F., Zaveri J.S., Zhan M., Zhang G., Zhao Q., Zheng L.,
 RA Zheng X.H., Zhong F.N., Zhong W., Zhou X., Zhu S., Zhu X., Smith H.O.,
 RA Gibbs R.A., Myers E.W., Rubin G.M., Venter J.C.;
 RT "The genome sequence of Drosophila melanogaster.";
 RL Science 287:2185-2195(2000).
 [2]
 RP SEQUENCE FROM N.A.
 RA Celinker S.E., Adams M.D., Krommiller B., Wan K.H., Holt R.A.,
 RA Evans C.A., Gocayne J.D., Amaralides P.G., Brandon R.C., Rogers Y.,
 RA Banzon J., An H., Baldwin D., Beeson K.Y., Busan D.A.,
 RA Carlson J.W., Center A., Champe M., Davenport L.B., Dietz S.M.,

RA Dodson K., Dorsett V., Doup L.E., Doyle C., Dresnek D., Farfan D.,
 RA Ferreira S., Friese E., Galie R.F., Garg N.S., George R.A.,
 RA Gonzalez M., Houck J., Hoskins R.A., Hostin D., Howland T.J.,
 RA Ibegwam C., Jalali M., Kruse D., Li P., Matei B., Moshrefi A.,
 RA McIntosh T.C., Moy M., Murphy B., Murphy L., Muzny D.M., Nelson D.L.,
 RA Pacle J., Paragas V., Park S., Patel S., Pfeiffer B.,
 RA Phouanavong S., Pittman G.S., Puri V., Richards S., Scheeler F.,
 RA Stapleton M., Strong R., Svitek R., Tector C., Tyler D.,
 RA Williams S.M., Zaveri J.S., Smith H.O., Venter J.C., Rubin G.M.;
 RT "Sequencing of Drosophila melanogaster genome.";
 RL Submitted (MAR-2000) to the EMBL/Genbank/DBJ databases.
 [3]
 RP SEQUENCE FROM N.A.
 RA Misra S., Crosby M.A., Matthews B.B., Bayraktaroglu L., Campbell K.,
 RA Hradecky P., Huang Y., Kaminker J.S., Prochuk S.E., Smith C.D.,
 RA Tupy J.L., Bergman C., Berman B., Carlson J.W., Celinker S.E.,
 RA Clamp M., Drysdale R., Emmert D., Friese E., de Grey A., Harris N.,
 RA Krommiller B., Marshall B., Millburn G., Richter J., Russo S.,
 RA Seale S.M.J., Smith E., Shu S., Smutnick F., Whitfield E.,
 RA Ashburner M., Gelbart W.M., Rubin G.M., Mungall C.J., Lewis S.E.;
 RT "Annotation of Drosophila melanogaster genome.";
 RL Submitted (MAR-2000) to the EMBL/Genbank/DBJ databases.
 [4]
 RP SEQUENCE FROM N.A.
 RA Adams M.D., Celinker S.E., Gibbs R.A., Rubin G.M., Venter C.J.;
 RL Submitted (MAR-2000) to the EMBL/Genbank/DBJ databases.
 [5]
 RP SEQUENCE FROM N.A.
 RA Flybase;
 RL Submitted (SEP-2002) to the EMBL/Genbank/DBJ databases.
 CC -1- SUBCELLULAR LOCATION: NUCLEAR (BY SIMILARITY).
 DR EMBL; AB003728; AAF5736.2; -
 DR Flybase; FBgn0038767; CG4413.
 DR InterPro; IPR007087; Znf C2H2.
 DR InterPro; IPR007086; Znf C2H2_sub.
 DR Pfam; PF00096; Zf-C2H2; 5.
 DR PRINTS; PR00048; ZINCFINGER.
 DR ProDom; PD000003; Znf C2H2; 1.
 DR SMART; SM00355; Znf C2H2; 5.
 DR PROSITE; PS00028; ZINC_FINGER_C2H2_1; 5.
 DR PROSITE; PS50157; ZINC_FINGER_C2H2_2; 5.
 KW Metal-binding; Nuclear protein; Zinc; Zinc-finger.
 SQ SEQUENCE 439 AA; 50327 MW; 236D6C4046B64EA2 CRC64;

Search completed: January 30, 2004, 11:44:38
 Job time : 14.4667 secs

PA (ENTR-) ENTREMED INC.
 XX
 PI Holaday JW, Ruiz A, Madsen J;
 XX
 DR WPI; 2000-594263/56.
 XX
 PT An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 PT of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 PS Claim 13; Page 28; 95pp; English.
 XX
 CC AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubeosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentaion and cat scratch fever.
 XX
 SQ Sequence 20 AA;
 XX
 Query Match 100.0%; Score 120; DB 21; Length 20;
 Best Local Similarity 100.0%; Pred. No. 2.9e-09;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 QY 1 CECRPKDKRTKPEKCDKPRR 20
 DB 1 CECRPKDKRTKPEKCDKPRR 20
 XX
 RESULT 2
 AAR22348
 ID AAR22348 standard; Protein; 146 AA.
 XX
 AC AAR22348;
 XX
 DT 29-JUL-1992 (first entry)
 XX
 DE Alternative form of VEGF mature A-subunit with 120 amino acids.
 XX
 KW Rat glioma cell; GS-9U; conditioned medium; heterodimer; VEGF-II;
 KW homodimer; mitogenesis; vascular repair; blood vessel implant;
 KW polymerase chain reaction; alternative splicing.
 XX
 OS Rattus.
 XX
 FH Key Location/Qualifiers
 FT Peptide 1..26
 FT /label= signal
 FT Protein 27..146
 FT /label= VEGF_A-subunit
 FT /note= "120 amino acids long"
 FT
 FT
 PN EP476983-A.
 XX
 PD 25-MAR-1992.
 XX
 PF 18-SEP-1991; 91EP-0308489.
 XX
 PR 21-SEP-1990; 90US-0586640.
 PR 21-SEP-1990; 90US-0586638.
 XX
 PA (MERI) MERCK & CO INC.
 XX
 PI Bayne ML, Conn GH, Thomas KA;
 XX

DR WPI; 1992-098641/13.
 DR N-PSDB; AAQ23039.
 XX
 PT Vascular endothelial cell growth factor II - used as coating for
 PT artificial blood vessels or to promote tissue repair
 XX
 PS Example 9; Page 14 and Fig 4; 38pp; English.
 XX
 CC Multiple cDNAs encoding alternative forms of the VEGF A-subunit
 CC were amplified using PCR primers as in AAQ23049 and AAQ23050. Three
 CC sets of clones were identified. Clone #12 encoded the 164 amino acid
 CC secreted form of VEGF A-subunit (see AAR22347). Clone #14 has a 135 bp
 CC deletion and thus encodes a 120 amino acid form and Clone #16 has a
 CC 72bp insertion and encodes a 188 amino acid mature protein (AAR22351).
 CC The deleted region lies between the second base of the Asn140 codon
 CC and the third base of the Arg184 codon. The 120 amino acid mature
 CC protein has Asn140 converted to Lys140.
 CC See also AAQ23038-Q23059.
 XX
 SQ Sequence 146 AA;
 XX
 Query Match 100.0%; Score 120; DB 13; Length 146;
 Best Local Similarity 100.0%; Pred. No. 1.9e-08;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 QY 1 CECRPKDKRTKPEKCDKPRR 20
 DB 127 CECRPKDKRTKPEKCDKPRR 146
 XX
 RESULT 3
 AAR27354
 ID AAR27354 standard; Protein; 146 AA.
 XX
 AC AAR27354;
 XX
 DT 25-MAR-2003 (updated)
 DT 25-FEB-1993 (first entry)
 XX
 DE Sequence of vascular endothelial cell growth factor VEGF A
 DE 146 amino acid residue subunit.
 XX
 KW Vascular development; mitogen; blood vessel;
 KW vascular endothelial growth factor; neovascularisation.
 XX
 OS Rattus.
 XX
 PN EP506477-A1.
 XX
 PD 30-SEP-1992.
 XX
 PF 27-MAR-1992; 92EP-0302750.
 XX
 PR 28-MAR-1991; 91US-0676436.
 XX
 PA (MERI) MERCK & CO INC.
 XX
 PI Bayne ML, Thomas KA;
 XX
 DR WPI; 1992-325745/40.
 DR N-PSDB; AAQ28953.
 XX
 PT Vascular endothelial cell growth factor sub-units - which stimulate
 PT vascular endothelial cell growth, used for inducing tissue repair
 PT and growth.
 XX
 PS Disclosure; Fig 4; 61pp; English.
 XX
 CC The full length coding region of the A subunit or monomer of VEGF
 CC is determined from three sets of overlapping cDNA clones. Degrenerate
 CC oligo. primers based on the amino acid sequences
 CC Phe-Met-Asp-Val-Tyr-Gln from polypeptide 142 (residues 42-47) and
 CC Cys-Lys-Asn-Thr-Asp from polypeptide T38 (residues 164-168) were used

CC to PCR amplify the central region of the cDNA for VEGF A chain.
 CC A single band migrating at 420 bp was gel purified, digested with SalI,
 CC ligated into pGEM3Zf(+) and sequenced. The nucleotide sequence
 CC obtained (94238) was used to design antisense and sense PCR primers
 CC to amplify the 5' and 3' ends of the cDNA. These 5' and 3' clones
 CC are denoted p5-15 and pW3, respectively. In addition to the cDNA
 CC coding the 164 amino acid secreted form identified by protein
 CC sequencing, two alternatively spliced cDNAs encoding a 146 amino acid
 CC and a 214 amino acid forms are cloned and sequenced.
 CC (Updated on 25-MAR-2003 to correct PN field.)
 CC (Updated on 25-MAR-2003 to correct PD field.)

XX Sequence 146 AA;

Query Match 100.0%; Score 120; DB 13; Length 146;
 Best Local Similarity 100.0%; Pred. No. 1.9e-08;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
 DB 127 CECRPKQRTKPEKCDKPRR 146

RESULT 4
 AAM53640
 ID AAM53640 standard; Protein; 146 AA.

XX AAM53640;

DT 30-JUL-1998 (first entry)

XX Vascular endothelial growth factor II A subunit variant.

KW Vascular endothelial cell growth factor; VEGF II; rat; glioma cell;
 mitogenesis; blood vessel growth; artificial blood vessel.

OS Rattus sp.

PN US5726152-A.

XX 10-MAR-1998.

PF 31-AUG-1994; 94US-0299185.

XX 31-AUG-1994; 94US-0299185.

PR 21-SEP-1990; 90US-0586638.

PR 05-JAN-1993; 93US-0000834.

XX (MERI) MERCK & CO INC.

PI Bayne ML, Conn GL, Thomas KA;

DR WPI; 1998-206007/18.

PT Vascular endothelial growth factor proteins - having specified A and
 B sub-units

PS Claim 1; Page -; 46pp; English.

CC The present sequence represents a rat vascular endothelial growth factor
 CC II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140,
 CC and the deletion of His 141 to Arg 184 from the wild-type given in
 CC AAM53639. The present invention describes: (1) a mammalian VEGF II
 CC protein comprising an A subunit from AAM53639, AAM53640 or AAM53641, and
 CC a B subunit from AAM53638, AAM53639 or the first 115-135 amino acids of
 CC AAM53638; and (2) a mammalian VEGF comprising a heterodimer or homodimer
 CC of B subunits. The growth factor is used for promoting vascular
 CC development and repair and for promoting tissue repair.
 CC N.B. The present sequence is not given in the specification but is
 CC derived from Fig 5 as stated in the claim.

XX Sequence 146 AA;

Query Match 100.0%; Score 120; DB 19; Length 146;
 Best Local Similarity 100.0%; Pred. No. 1.9e-08;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
 DB 127 CECRPKQRTKPEKCDKPRR 146

RESULT 5
 AAY57029
 ID AAY57029 standard; Protein; 146 AA.

XX AAY57029;

DT 15-FEB-2000 (first entry)

XX VEGFA 146 amino acid residue subunit sequence.

KW VEGF; vascular endothelial growth factor; A subunit; tissue growth;
 vascular development; artificial blood vessel; repair; human.

OS Homo sapiens.

PN US5994300-A.

XX 30-NOV-1999.

PF 20-SEP-1993; 93US-0124259.

PR 28-MAR-1991; 91US-0676436.

XX (MERI) MERCK & CO INC.

PI Thomas KA, Bayne ML;

DR WPI; 2000-038268/03.

DR N-PSDB; AAZ39827.

PT Purified and isolated vascular endothelial cell growth factor C subunit
 for the induction of tissue repair or growth -

PS Disclosure; Fig 3; 58pp; English.

CC This is the amino acid sequence of a 146 amino acid residue A subunit of
 CC vascular endothelial cell growth factor (VEGF). The invention relates to
 CC a purified and isolated VEGF C subunit amino acid sequence AAY57025.
 CC VEGF exists in various microheterogeneous forms, and is useful for the
 CC promotion of vascular development and repair. The invention also relates
 CC to human VEGF heterodimers AC or BC and homodimer CC, where A, B and C
 CC are subunit amino acid sequences. The VEGF AC, BC or CC amino acid
 CC sequences can be used in a tissue repairing pharmaceutical composition.
 CC The novel growth factors are useful for the production or coverage of
 CC artificial blood vessels with vascular endothelial cell. They are also
 CC useful for the induction of tissue growth and repair.

XX Sequence 146 AA;

Query Match 100.0%; Score 120; DB 21; Length 146;
 Best Local Similarity 100.0%; Pred. No. 1.9e-08;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
 DB 127 CECRPKQRTKPEKCDKPRR 146

RESULT 6

AAB37505
 ID AAB37505 standard; Protein; 146 AA.

XX AAB37505;

XX

DT 26-FEB-2001 (first entry)
 XX
 XX Rat VEGF subunit A SEQ ID NO: 33.
 XX
 XX Vascular endothelial growth factor; VEGF C subunit; cell division;
 KW artificial blood vessel; tissue growth; tissue repair.
 XX
 XX Rattus sp.
 OS
 XX US6140073-A.
 PN
 XX 31-OCT-2000.
 PD
 XX 16-JAN-1996; 96US-0586039.
 PF
 XX 20-SEP-1993; 93US-0124259.
 PR
 XX 28-MAR-1991; 91US-0676436.
 PA
 XX (MERI) MERCK & CO INC.
 PI
 XX Thomas KA, Bayne ML;
 DR
 XX WPI; 2001-014858/02.
 DR
 XX N-PSDB; AAC83512.
 XX
 XX Human vascular endothelial cell growth factor (VEGF) C subunit DNA and
 PT protein, useful for promoting vascular development and repair, and for
 PT promoting tissue repair, especially for treating wounds in mammals -
 XX
 XX Example 9; Fig 4; 58pp; English.
 PS
 XX The present invention is concerned with the human vascular endothelial
 CC growth factor (VEGF) C subunit. VEGF is a vascular endothelial cell
 CC mitogen and can be used to promote vascular development and repair. The C
 CC subunit may exist as a homodimer or a heterodimer with the VEGF A or B
 CC subunit. VEGF can be used in the treatment of wounds of mammals, to cover
 CC artificial blood vessels with vascular endothelial cells, in the
 CC production of artificial blood vessels and to induce tissue repair or
 CC growth.
 CC
 CC Sequence 146 AA;
 SQ
 XX
 XX Query Match 100.0%; Score 120; DB 22; Length 146;
 Best Local Similarity 100.0%; Pred. No. 1.9e-08;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPKCKDKPRR 20
 DB 127 CECRPKQRTKPKCKDKPRR 146

RESULT 7
 AAB53387 standard; Protein; 105 AA.
 ID AAB53387;
 AC AAB53387;
 XX
 XX 09-MAR-2001 (first entry)
 DT
 XX Human colon cancer antigen protein sequence SEQ ID NO:927.
 DE
 XX Human; colon cancer; colon cancer antigen; diagnosis; detection;
 KW identification; cytostatic; cardioactive; neuroprotective; vulnery;
 KW immunomodulatory; muscual; gynaecological; gastrointestinal;
 KW nephrotropic; antiinfective; antibacterial; gene therapy; wound;
 KW neural disorder; immune system disorder; muscular disorder;
 KW reproductive disorder; gastrointestinal disorder; renal disorder;
 KW infectious disease; cardiovascular disorder.
 XX
 XX Homo sapiens.
 OS
 XX WO200055351-A1.
 PN
 XX

PD 21-SEP-2000.
 XX
 XX 08-MAR-2000; 2000WO-US05883.
 PF
 XX 12-MAR-1999; 99US-0124270.
 PR
 XX (HUMA-) HUMAN GENOME SCI INC.
 PA
 XX Rosen CA, Ruben SM;
 PI
 XX WPI; 2000-587534/55.
 DR
 XX N-PSDB; AAC98144.
 XX
 XX Colon cancer associated gene sequences, referred to as colon cancer
 PT antigens, useful for the treatment, prevention, and diagnosis of colon
 PT disorders such as colon cancer -
 XX
 XX Claim 11; Page 1486; 2104pp; English.
 PS
 XX AAC97991 to AAC98763 encode the human colon cancer associated proteins,
 CC called human colon cancer antigens, given in AAB53234 to AAB54006. The
 CC human colon cancer antigens can have cytostatic, cardioactive, muscular;
 CC neuroprotective, immunomodulatory, gynaecological, gastrointestinal,
 CC vulnery, nephrotropic, antiinfective and antibacterial activities, and
 CC can be used in gene therapy. The colon cancer antigen polynucleotides,
 CC proteins and antibodies to the proteins are useful for the prevention,
 CC treatment and diagnosis of colon disorders, such as colon cancer. The
 CC polynucleotides may be used in diagnostics and research, such as for
 CC chromosome identification, and as hybridisation probes. The proteins
 CC may also be used to prevent diseases such as neural disorders, immune
 CC system disorders, muscular disorders, reproductive disorders,
 CC gastrointestinal disorders, wounds, renal disorders, infectious
 CC diseases, and cardiovascular disorders. AAC98764 to AAC98772 and
 CC AAB54007 represent sequences used in the exemplification of the present
 CC invention.
 CC
 CC Sequence 105 AA;
 SQ
 XX
 XX Query Match 86.7%; Score 104; DB 21; Length 105;
 Best Local Similarity 85.0%; Pred. No. 1.8e-06;
 Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPKCKDKPRR 20
 DB 86 CECRPKQRTKPKCKDKPRR 105

RESULT 8
 AAR11385 standard; Protein; 121 AA.
 ID AAR11385;
 AC AAR11385;
 XX
 XX 25-MAR-2003 (updated)
 DT
 XX 08-MAY-1991 (first entry)
 DT
 XX Human vascular endothelial cell growth factor 121.
 DE
 XX Human; vascular endothelial cell growth factor; angiogenesis;
 KW wound healing; hVEGF; PDGF.
 KW
 XX Bos taurus.
 OS
 XX WO9102058-A.
 PN
 XX 21-FEB-1991.
 PD
 XX 27-JUL-1990; 90WO-US04227.
 PF
 XX 14-DEC-1989; 89US-0450883.
 PR
 XX 27-JUL-1989; 89US-0387545.
 PA
 XX (CALD) CALIFORNIA BIOTECHNOLOGY INC.

XX Tischer ER, Abraham, Fiddes JC, Mitchell RL;
 PI MPI: 1991-073534/10.
 DR N-PSDB; AAQ11099.
 XX
 PT DNA encoding vascular endothelial cell growth factor - used for
 PT producing the factor for angiogenesis and re-endothelialisation
 PT in wound healing
 XX
 PS Disclosure; Fig 7(1-2); 94pp; English.
 XX
 CC The two forms of VEGF (AAQ10797 and AAQ10917) which arise through
 CC different message splicing, have different properties. In partic.
 CC hVEGF121 does not bind to heparin leaving more of the protein free to
 CC bind to VEGF receptor and increase the half-life and distribution of
 CC the protein in circulation, whereas hVEGF165 binds heparin strongly.
 CC The product can be used for angiogenesis and re-endothelialisation
 CC of inner vascular surfaces in wound healing, e.g. treatment of full-
 CC thickness wounds such as dermal ulcers, venous ulcers and diabetic
 CC ulcers, burns, in surgery, in balloon angioplasty and for the in
 CC vitro culturing of endothelial cells. Hybrid growth factors of PDGF
 CC and VEGF can exhibit a mitogenic profile between each factor and
 CC can be used for wound healing or as inhibitors of angiogenesis for
 CC e.g. preventing the growth of tumours.
 CC VEGF analogues in which CYS residues are substid. are more stable.
 CC See also AAQ10791-93; AAQ10796-97; AAQ10806-08 and AAQ1099.
 CC (Updated on 25-MAR-2003 to correct PA field.)
 CC
 SQ Sequence 121 AA;

Query Match 86.7%; Score 104; DB 12; Length 121;
 Best Local Similarity 85.0%; Pred. No. 2.1e-06;
 Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CECRPKDKRTKPKCDKPRR 20
 ||||| : |||||
 DB 102 CECRPKDKRABQKCDKPRR 121

RESULT 9
 AAR42607
 ID AAR42607 standard; Protein; 121 AA.
 XX
 AC AAR42607;
 XX
 DT 25-MAR-2003 (updated)
 DT 28-OCT-1993 (first entry)
 XX
 DE Human VEGF-121.
 XX
 KM Angiogenesis; wound healing; mitogen; vascular endothelial cells;
 KM Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT Misc-difference 7 /note= "inserted amino acid relative to bVEGF"
 FT Misc-difference 115 /note= "Lys 115 of hVEGF-121 is replaced by 44
 FT amino acids encoded by an alternatively
 FT spliced exon in hVEGF-165 (see AAR38921)"
 XX
 PN US5219739-A.
 XX
 PD 15-JUN-1993.
 XX
 PF 27-JUL-1990; 90US-0559041.
 XX
 PR 27-JUL-1989; 89US-0387545.
 PR 14-DEC-1989; 89US-0450883.
 PR 27-JUL-1990; 90US-0559041.

XX (SCIO-) SCIOS NOVA INC.
 PA
 XX
 PI Abraham JA, Fiddes JC, Mitchell RL, Tischer EG;
 XX
 DR MPI; 1993-205302/25.
 DR N-PSDB; AAQ49601.
 XX
 PT Isolated DNA sequences, expression vectors and transformant cells
 PT used for large scale produ. of vascular endothelial cell growth
 PT factor, for treating wounds in which neo-vascularisation is
 PT required
 XX
 PS Claim 3; Fig 7; 40pp; English.
 XX
 CC The sequence of AAQ44260 contains an open reading frame corresponding
 CC to the 165 amino acid human vascular endothelial cell growth
 CC factor (hVEGF-165, see AAR38921). Alternative splicing of the
 CC sequence gives a shorter coding sequence which encodes the 121
 CC amino acid hVEGF (see AAR42607). The full-length coding sequences can
 CC be generated using PCR with human foetal vascular smooth muscle
 CC poly-A+ RNA as template.
 CC (Updated on 25-MAR-2003 to correct PF field.)
 CC
 SQ Sequence 121 AA;

Query Match 86.7%; Score 104; DB 14; Length 121;
 Best Local Similarity 85.0%; Pred. No. 2.1e-06;
 Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CECRPKDKRTKPKCDKPRR 20
 ||||| : |||||
 DB 102 CECRPKDKRABQKCDKPRR 121

RESULT 10
 AAY23943
 ID AAY23943 standard; peptide; 121 AA.
 XX
 AC AAY23943;
 XX
 DT 21-SEP-1999 (first entry)
 XX
 DE Amino acid sequence of vascular endothelial growth factor (VEGF) 121.
 XX
 KM Vascular endothelial growth factor; VEGF; VEGF 121; monoclonal antibody.
 XX
 OS Homo sapiens.
 XX
 PN JP11176593-A.
 XX
 PD 06-JUL-1999.
 XX
 PF 24-DEC-1997; 97JP-0365972.
 XX
 PR 24-DEC-1997; 97JP-0365972.
 XX
 PA (PURE) FUJIREBIO KK.
 XX
 DR MPI; 1999-437318/37.
 XX
 PT New VEGF121-specific monoclonal antibody - useful for measuring
 PT levels of VEGF121
 XX
 PS Disclosure; Page 5; 6pp; Japanese.
 XX
 CC The present sequence represents vascular endothelial growth factor
 CC (VEGF) 121. The specification describes a monoclonal antibody which
 CC is specific to VEGF 121, and a hybridoma producing this antibody. The
 CC antibody is used in a method for measuring the amount of VEGF 121
 CC present in a sample.
 XX
 SQ Sequence 121 AA;

Query Match 86.7%; Score 104; DB 20; Length 121;
 Best Local Similarity 85.0%; Pred. No. 2, 1e-06;
 Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
 ||||| : |||||
 DB 102 CECRPKQRTKPEKCDKPRR 121

RESULT 11
 AAY08278

ID AAY08278 standard; Protein; 121 AA.

XX AAY08278;

XX 14-JUL-1999 (first entry)

XX Human growth factor protein fragment VEGF-A121.

XX Growth factor; human; dimer; cysteine knot; cellular inclusion body;
 KW pharmaceutical.

XX Homo sapiens.

XX DE19748734-A1.

XX 06-MAY-1999.

XX 05-NOV-1997; 97DE-1048734.

XX 05-NOV-1997; 97DE-1048734.

XX (GBFB) GES BIOTECHNOLOGISCHE FORSCHUNG MBH.

XX Erdmann H, Kaerst U, Mueller C, Rinas U, Weich H;

XX WPI; 1999-278785/24.

XX Preparing active growth factor dimers from inclusion bodies in high
 PT yield

XX Claim 14; Page 7; 14pp; German.

CC This invention describes the novel preparation of biologically active
 CC dimers of recombinant human growth factors of the cysteine knot family
 CC starting from cellular inclusion bodies. Such dimers are useful in
 CC pharmaceutical compositions and the method provides yields of 31-39.7%,
 CC in examples, compared with about 10% for the conventional method (see
 CC Biochemistry, 28 (1989) 2956). AAY08278-Y08301 are human growth factor
 CC protein fragments used in the method of the invention.

XX Sequence 121 AA;

Query Match 86.7%; Score 104; DB 20; Length 121;
 Best Local Similarity 85.0%; Pred. No. 2, 1e-06;

Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
 ||||| : |||||
 DB 102 CECRPKQRTKPEKCDKPRR 121

RESULT 12

ID AAB50428 standard; Protein; 121 AA.

XX AAB50428;

XX 13-MAR-2001 (first entry)

XX Mature human vascular endothelial growth factor polypeptide.

XX

KW Human; vascular endothelial growth factor; VEGF; VEGF dimer;
 KW hypotensive; litholytic; nephrotoxic; antiarteriosclerotic;
 KW antiinflammatory; angiogenesis; vascular remodeling; injury; wound;
 KW peripheral arterial disease; coronary artery disease; hypoxia;
 KW essential hypertension; microvascular angiopathy; hypercapnia;
 KW polycystic kidney disease; vascular endothelial cell repair;
 KW lung disease; kidney disease; inflammatory bowel disease.

XX Homo sapiens.

XX WO200071716-A2.

XX 30-NOV-2000.

XX 18-MAY-2000; 2000WO-US13636.

XX 20-MAY-1999; 99US-0135312.

XX 20-JAN-2000; 2000US-0177407.

XX (SCIO-) SCIOS INC.

XX Jue RA, Scheißenberger U, Stathis PA, Adriaenssens PI, Abraham JA;
 PI Baldwin PA, Pollitt NS;

XX WPI; 2001-041064/05.

XX N-PsDB; AAC90473.

PT Vascular endothelial growth factor dimer, useful for treating essential
 PT hypertension, polycystic kidney diseases, microvascular angiopathy and
 PT coronary artery disease, comprising two monomeric subunits

XX Claim 1; Fig 1; 61pp; English.

CC The present sequence encodes a monomer of a vascular endothelial growth
 CC factor (VEGF) dimer. The dimer comprises a first and a second monomer,
 CC each comprising at least amino acids 11-116 of a defined 147 amino acid
 CC sequence, or a sequence having at least 90% identity to the defined
 CC sequence, and retaining a cysteine at or corresponding to position 116,
 CC which is disulphide-bonded to an additional extraneous cysteine. The
 CC VEGF dimer is useful for inducing angiogenesis and vascular remodeling,
 CC treating peripheral arterial disease, coronary artery disease, essential
 CC hypertension, microvascular angiopathy and polycystic kidney disease,
 CC and repair of vascular endothelial cell layers. It is also useful for
 CC treating injuries, wounds, hypoxia, hypercapnia, pulmonary dysfunction,
 CC kidney diseases, diseases arising from disordered transport of solutes
 CC and fluids across the intestinal epithelium including inflammatory bowel
 CC disease, and disorders due to accumulation of ascites in the
 CC peritoneum.

XX Sequence 121 AA;

Query Match 86.7%; Score 104; DB 22; Length 121;
 Best Local Similarity 85.0%; Pred. No. 2, 1e-06;

Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
 ||||| : |||||
 DB 102 CECRPKQRTKPEKCDKPRR 121

RESULT 13
 AAE32329

ID AAE32329 standard; Protein; 121 AA.

XX AAE32329;

XX 24-MAR-2003 (first entry)

XX Human vascular endothelial growth factor (VEGF)121.

XX Vascular endothelial growth factor; VEGF; angiogenesis; wound healing;
 KW bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer;
 KW lesion; injury; trauma; periodontal condition; protein therapy; human.

KW

XX Homo sapiens.
 OS
 XX
 XX MO200283851-A2.
 PN
 XX
 XX 24-OCT-2002.
 PD
 XX
 XX 10-APR-2002; 2002MO-US11406.
 PF
 XX
 XX 10-APR-2001; 2001US-0832355.
 PR
 XX
 XX (GENV-) GENVEC INC.
 PA
 XX
 XX Kovesdi I, Kessler PD;
 PI
 XX
 XX WPI: 2003-075536/07.
 DR
 XX
 XX N-PSDB; AAD49965.
 DR
 XX
 XX New fusion protein comprising a non-heparin-binding vascular
 PT endotheial growth factor (VEGF) peptide portion and a non-VEGF peptide
 PT portion, useful for promoting angiogenesis and/or bone growth in
 PT mammals
 PS
 XX
 XX Disclosure; Page 118; 191pp; English.
 PS
 XX
 XX The invention relates to a fusion protein comprising non-heparin binding
 CC vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF
 CC peptide portion useful for promoting angiogenesis and/or bone growth in
 CC mammalian host. The fusion protein is useful for promoting angiogenesis,
 CC wound healing and bone growth. Compositions containing bone growth
 CC promoting fusion protein can be used to treat osteoporosis, rheumatoid
 CC or osteoarthritis, to improve poor bone healing, to promote implant
 CC integration and function of artificial joints and to facilitate bone
 CC reconstruction. They can also be used to treat e.g. ulcers, lesions,
 CC injuries, burns, trauma, periodontal conditions, lacerations and other
 CC conditions. The invention is also useful in protein therapy. The present
 CC sequence is human VEGF121 protein.
 CC
 SQ Sequence 121 AA;
 QY
 Query Match 86.7%; Score 104; DB 24; Length 121;
 Best Local Similarity 85.0%; Pred. No. 2.1e-06;
 Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 DB 1 CECRPKDKRTKPEKCDKPRR 20
 102 CECRPKDKRARQEKCDKPRR 121
 RESULT 14
 AAY33438
 ID AAY33438 standard; Protein; 146 AA.
 XX
 XX AAY33438;
 AC
 XX
 XX 13-DEC-1999 (first entry)
 DT
 XX
 XX Parapox virus VEGF growth factor homologue protein fragment 5.
 DE
 XX
 XX D1701; vascular endothelial growth factor; PPV-VEGF; angiogenesis;
 KW endothelial cell proliferation; gene therapy; diagnostic; tissue repair;
 KW immunomodulation; dendritic cell differentiation; DNA vaccine.
 XX
 OS Parapoxvirus.
 XX
 XX DE19813774-A1.
 PN
 XX
 XX 30-SEP-1999.
 PD
 XX
 XX 27-MAR-1998; 98DE-1013774.
 PF
 XX
 XX 27-MAR-1998; 98DE-1013774.
 PR
 XX
 XX

PA (PLAC) MAX PLANCK GES FOERDERUNG WISSENSCHAFTEN.
 XX
 XX Dehio C, Roettgen M, Rziha H, Buettner M;
 PI
 XX
 XX WPI: 1999-552202/47.
 DR
 XX
 XX Homolog of human vascular endothelial growth factor useful for
 PT stimulating endothelial cell proliferation, e.g. for stimulating
 PT angiogenesis or tissue repair or for immunomodulation
 PT
 XX
 XX Disclosure; Fig 2; 16pp; German.
 PS
 XX
 XX This invention describes a novel polypeptide that is a parapox virus
 CC homolog of human vascular endothelial growth factor (PPV-VEGF) and
 CC stimulates endothelial cell proliferation. The products of the invention
 CC have angiogenic activity. The polypeptide can be used in pharmaceutical
 CC compositions for therapeutic or diagnostic use, e.g. for stimulating
 CC angiogenesis or tissue repair or for immunomodulation, e.g. by
 CC stimulating endothelial cell proliferation or inhibiting dendritic cell
 CC differentiation. Nucleic acids encoding the polypeptide can be used in
 CC pharmaceutical compositions for DNA vaccination or gene therapy. This
 CC sequence represents a protein fragment of a parapox virus D1701 vascular
 CC endothelial growth factor (VEGF) homologue.
 CC
 SQ Sequence 146 AA;
 QY
 Query Match 86.7%; Score 104; DB 20; Length 146;
 Best Local Similarity 85.0%; Pred. No. 2.5e-06;
 Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 DB 1 CECRPKDKRTKPEKCDKPRR 20
 127 CECRPKDKRARQEKCDKPRR 146
 RESULT 15
 AAR91075
 ID AAR91075 standard; Protein; 147 AA.
 XX
 XX AAR91075;
 AC
 XX
 XX 14-MAY-1996 (first entry)
 DT
 XX
 XX Human vascular endothelial growth factor-121, VEGF-121.
 DE
 XX
 XX Conjugate; growth factor; RGF; cytotoxin; saporin; eye; regulation;
 KW cell proliferation; psoriasis; pterygia; corneal clouding; cancer;
 KW rheumatoid arthritis; vascular endothelial; fibroblast; epidermal;
 KW heparin binding.
 XX
 XX Homo sapiens.
 OS
 XX
 XX Key Location/Qualifiers
 FH
 FH Peptide 1..26
 FT /label= sig_peptide
 FT Protein 27..147
 FT /label= VEGF-121
 FT
 XX
 XX WO9524928-A2.
 PN
 XX
 XX 21-SEP-1995.
 PD
 XX
 XX 15-MAR-1995; 95WO-US03448.
 PF
 XX
 XX 15-MAR-1994; 94US-0213447.
 PR
 XX
 XX 15-MAR-1994; 94US-0213446.
 PR
 XX
 XX (PRIZ-) PRIZM PHARM INC.
 PA
 XX
 XX Baird JA, Houston LU, Nova MP, Sobnowski BA;
 PI
 XX
 XX WPI: 1995-336820/43.
 DR
 XX
 XX N-PSDB; AAO99080.
 DR

XX New conjugates of growth factor receptor ligand and targetted agent
 PT - partic. DNA or cytotoxin, used to control cell proliferation in
 PT the eye, e.g. to prevent growth of pterygii and corneal clouding
 XX
 PS Disclosure; Page 184-185; 204pp; English.
 XX

CC AAR91075-R91078 are human vascular endothelial growth factors (VEGFs).
 CC DNA encoding a VEGF can be used to create a fusion protein (FP), and
 CC the cDNA of which includes a nucleic acid binding domain (NABD) and
 CC encodes a heparin binding growth factor, HEPGF (e.g. VEGF, FGF, HBEGF),
 CC a protein synthesis inhibitor and opt. a linker imparting flexibility
 CC to the FP. The FP can be used to target a protein synthesis inhibitor,
 CC an antisense DNA sequence or an inhibitor of elongation factor 2, to a
 CC cell carrying a HEPGF receptor. The conjugates of the invention are
 CC used to inhibit cell proliferation in cells carrying the particular
 CC growth factor receptor. A specific application is to prevent
 CC excessive proliferation of epithelial cells, fibroblasts and
 CC keratinocytes in the anterior eye after surgery, partic. to prevent
 CC recurrence of pterygii after surgical removal, closure of
 CC trabeculectomy after glaucoma surgery and corneal clouding after
 CC excimer laser treatment. Other conditions which may be treated include
 CC tumours, restenosis, psoriasis, Dupuytren's contracture, diabetic
 CC complications, Kaposi's sarcoma and rheumatoid arthritis.
 XX

SQ Sequence 147 AA;

Query Match 86.7%; Score 104; DB 16; Length 147;
 Best Local Similarity 85.0%; Pred. No. 2.5e-06;
 Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CECRPKQDRTKPEKCDKPPR 20
 |||||:|||||
 DB 128 CECRPKQDRTKPEKCDKPPR 147

Search completed: January 30, 2004, 11:40:06
 Job time : 27.5096 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:35:33 ; Search time 8.51282 Seconds
(without alignments)
99.405 Million cell updates/sec

Title: US-09-266-543-4

Sequence: 1 CECRKKDKRTPEKCDKPRR 20

Scoring table: BLOSUM62

Gapop 10.0, Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database : Issued Patents AA:*

1: /cgn2_6/ptodata/1/1aa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/1aa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/1aa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/1aa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/1aa/6C_COMB.pep:*
6: /cgn2_6/ptodata/1/1aa/backfile1.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	120	100.0	146	3	US-08-586-039B-33
2	120	100.0	146	4	US-09-699-769-33
3	104	86.7	121	6	5194596-19
4	104	86.7	121	6	5219739-20
5	104	86.7	147	3	US-08-807-992B-1
6	104	86.7	147	4	US-09-392-932-1
7	104	86.7	147	4	US-08-706-054A-4
8	104	86.7	147	4	US-09-574-708A-2
9	104	86.7	147	4	US-09-313-299-4
10	101	84.2	120	6	5194596-9
11	101	84.2	120	6	5219739-9
12	99	82.5	146	4	US-09-431-888-3
13	86.5	72.1	137	4	US-09-037-983C-15
14	86.5	71.7	137	4	US-09-037-983C-17
15	85.5	71.2	138	4	US-09-037-983C-16
16	85.5	71.2	164	4	US-09-244-583-24
17	85	70.8	189	1	US-08-469-427A-15
18	85	70.8	190	2	US-08-569-063C-20
19	85	70.8	190	4	US-08-586-039B-31
20	85	70.8	190	4	US-09-699-769-31
21	83	69.2	214	4	US-08-586-039B-35
22	83	69.2	214	4	US-09-699-769-35
23	82	68.3	145	3	US-08-784-551C-2
24	82	68.3	145	4	US-09-392-932-2
25	82	68.3	145	4	US-09-574-708A-4
26	82	68.3	145	4	US-09-037-983C-2
27	73.5	61.3	188	4	US-09-244-583-28

28	70	58.3	149	1	US-08-469-427A-14	Sequence 14, Appl
29	70	58.3	149	2	US-08-039-297B-2	Sequence 2, Appl
30	70	58.3	149	2	US-08-569-063C-21	Sequence 21, Appl
31	70	58.3	149	3	US-08-795-430-55	Sequence 55, Appl
32	70	58.3	149	3	US-08-586-039B-47	Sequence 47, Appl
33	70	58.3	149	4	US-09-355-700-55	Sequence 55, Appl
34	70	58.3	149	4	US-08-706-054A-5	Sequence 5, Appl
35	70	58.3	149	4	US-09-699-769-47	Sequence 47, Appl
36	70	58.3	149	4	US-09-313-299-5	Sequence 5, Appl
37	69	57.5	165	4	US-08-882-816-3	Sequence 3, Appl
38	69	57.5	165	4	US-08-802-052B-3	Sequence 3, Appl
39	69	57.5	165	6	5194596-18	Patent No. 5194596
40	69	57.5	165	6	5219739-19	Patent No. 5219739
41	69	57.5	191	3	US-08-567-200A-2	Sequence 2, Appl
42	69	57.5	191	3	US-08-807-992B-2	Sequence 2, Appl
43	69	57.5	191	3	US-08-691-794-2	Sequence 2, Appl
44	69	57.5	191	3	US-08-795-430-56	Sequence 56, Appl
45	69	57.5	191	4	US-09-392-932-3	Sequence 3, Appl

ALIGNMENTS

RESULT 1
US-08-586-039B-33
; Sequence 33, Application US/08586039B
; Patent No. 6140073
; GENERAL INFORMATION:
; APPLICANT: Bayne, Marvin L.
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C
; TITLE OF INVENTION: SUBUNIT
; NUMBER OF SEQUENCES: 49
; CORRESPONDENCE ADDRESSES:
; ADDRESSEE: Merck & Co., Inc.
; STREET: 126 E. Lincoln Avenue
; CITY: Rahway
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07065-0900
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Microsoft Word 6
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/586, 039B
; FILING DATE: 16-JAN-1996
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/124, 259
; FILING DATE: 20-SEP-1993
; APPLICATION NUMBER: 07/676, 436
; FILING DATE: 28-MAR-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Hand, J. Mark
; REGISTRATION NUMBER: 36,545
; REFERENCE/DOCKET NUMBER: 18361DA
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (908) 594-3905
; TELEFAX: (908) 594-4720
; INFORMATION FOR SEQ ID NO: 33:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 146 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-586-039B-33
Query Match 100.0%; Score 120; DB 3; Length 146;
Best Local Similarity 100.0%; Pred. No. 3e-09;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 CECRPKDRTKPKCDKPRR 20
Db 127 CECRPKDRTKPKCDKPRR 146

RESULT 2

US-09-699-769-33
Sequence 33, Application US/09699769
Patent No. 6569434

GENERAL INFORMATION:

APPLICANT: Bayne, Marvin L.
Thomas Jr., Kenneth A.

TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
C SUBUNIT

NUMBER OF SEQUENCES: 49
CORRESPONDENCE ADDRESS:

ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
CITY: Rahway
STATE: New Jersey

COUNTRY: USA
ZIP: 07065-0900

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Microsoft Word 6

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/699,769
FILING DATE: 30-Oct-2000

CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/586,039
FILING DATE: 16-JAN-1996

APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993

APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991

ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark

REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DB

TELECOMMUNICATION INFORMATION:
TELEPHONE: (732) 594-3905
TELEFAX: (732) 594-4720

INFORMATION FOR SEQ ID NO: 33:

SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
TYPE: amino acid

STRANDEDNESS: single
TOPOLOGY: linear

MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 33:

US-09-699-769-33

Query Match 100.0%; Score 120; DB 4; Length 146;
Best Local Similarity 100.0%; Pred. No. 3e-09;

Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 1 CECRPKDRTKPKCDKPRR 20
Db 127 CECRPKDRTKPKCDKPRR 146

RESULT 3
5194596-19

PATENT NO. 5194596
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR

NUMBER OF SEQUENCES: 32

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989

SEQ ID NO: 19;
LENGTH: 121

5194596-19

Query Match 86.7%; Score 104; DB 6; Length 121;
Best Local Similarity 85.0%; Pred. No. 3.5e-07;

Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CECRPKDRTKPKCDKPRR 20
Db 102 CECRPKDRTKPKCDKPRR 121

RESULT 4
5219739-20

PATENT NO. 5219739
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
JOHN C.; MITCHELL, RICHARD L.

TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGFP120 AND
HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGFP120 AND HVEGF121

NUMBER OF SEQUENCES: 40
CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990

PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989

APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989

SEQ ID NO: 20;
LENGTH: 121

5219739-20

Query Match 86.7%; Score 104; DB 6; Length 121;
Best Local Similarity 85.0%; Pred. No. 3.5e-07;

Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CECRPKDRTKPKCDKPRR 20
Db 102 CECRPKDRTKPKCDKPRR 121

RESULT 5
US-08-807-9928-1

Sequence 1, Application US/088079928
Patent No. 6022541

GENERAL INFORMATION:
APPLICANT: Senger, Donald R
Dvorak, Harold F

TITLE OF INVENTION: Immunological preparation for concurrent
specific binding to spatially exposed regions of vascular
permeability factor bound in-vivo to a tumor associated blood

TITLE OF INVENTION: vessel
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:

ADDRESSEE: David Prashker, Esq.
STREET: P.O. Box 5387
CITY: Magnolia
STATE: Massachusetts
COUNTRY: USA
ZIP: 01930

COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
OPERATING SYSTEM: MS DOS
SOFTWARE: WordPerfect version 5.1

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; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/807,992B
; FILING DATE: March 3, 1997
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: David Prashker, Esq.
; REGISTRATION NUMBER: 29,693
; REFERENCE/DOCKET NUMBER: BIS-033
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (978) 525-3794
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 147 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
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; US-08-807-992B-1
;
Query Match      86.7%; Score 104; DB 3; Length 147;
Best Local Similarity 85.0%; Pred. No. 4.2e-07;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY      1 CECRPKDKRTKPEKCDKPRR 20
        |||||:|||||
Db      128 CECRPKDKRARQEKCDKPRR 147

RESULT 6
; US-09-392-932-1
; Sequence 1, Application US/09392932
; Patent No. 6352975
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
; FILE REFERENCE: SCIOS.002A
; CURRENT APPLICATION NUMBER: US/09/392,932
; CURRENT FILING DATE: 1999-09-09
; EARLIER APPLICATION NUMBER: 60/099,694
; EARLIER FILING DATE: 1998-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO: 1
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo Sapiens
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; US-09-392-932-1
;
Query Match      86.7%; Score 104; DB 4; Length 147;
Best Local Similarity 85.0%; Pred. No. 4.2e-07;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY      1 CECRPKDKRTKPEKCDKPRR 20
        |||||:|||||
Db      128 CECRPKDKRARQEKCDKPRR 147

RESULT 7
; US-08-706-054A-4
; Sequence 4, Application US/08706054A
; Patent No. 6451764
; GENERAL INFORMATION:
; APPLICANT: Lee, James
; APPLICANT: Wood, William I.
; TITLE OF INVENTION: VEGF-Related Protein
; NUMBER OF SEQUENCES: 12
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Genentech, Inc.
; STREET: 460 Point San Bruno Blvd
; CITY: South San Francisco
; STATE: California
; COUNTRY: USA

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; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: WinPacfin (Genentech)
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; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/706,054A
; FILING DATE: 30-Aug-1996
; CLASSIFICATION: <Unknown>
;
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 60/003491
; FILING DATE: 08-Sep-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Lee, Wendy M.
; REGISTRATION NUMBER: P-40,378
; REFERENCE/DOCKET NUMBER: P0963R1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 415/225-1994
; TELEFAX: 415/952-9881
; TELEX: 910/371-7168
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 147 amino acids
; TYPE: Amino Acid
; TOPOLOGY: linear
;
; SEQUENCE DESCRIPTION: SEQ ID NO: 4:
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; US-08-706-054A-4
;
Query Match      86.7%; Score 104; DB 4; Length 147;
Best Local Similarity 85.0%; Pred. No. 4.2e-07;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY      1 CECRPKDKRTKPEKCDKPRR 20
        |||||:|||||
Db      128 CECRPKDKRARQEKCDKPRR 147

RESULT 8
; US-09-574-708A-2
; Sequence 2, Application US/09574708A
; Patent No. 6475796
; GENERAL INFORMATION:
; APPLICANT: N. Stephen Pollitt
; APPLICANT: Judith A. Abraham
; TITLE OF INVENTION: Vascular endothelial growth factor
; FILE REFERENCE: SCIOS004A
; CURRENT APPLICATION NUMBER: US/09/574,708A
; CURRENT FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/135,312
; PRIOR FILING DATE: 1999-05-20
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO: 2
; LENGTH: 147
; TYPE: PRT
; ORGANISM: Homo sapiens
;
; US-09-574-708A-2
;
Query Match      86.7%; Score 104; DB 4; Length 147;
Best Local Similarity 85.0%; Pred. No. 4.2e-07;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY      1 CECRPKDKRTKPEKCDKPRR 20
        |||||:|||||
Db      128 CECRPKDKRARQEKCDKPRR 147

RESULT 9
; US-09-313-299-4
; Sequence 4, Application US/09313299B
; Patent No. 6576608

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GENERAL INFORMATION:
APPLICANT: Lee, James
TITLE OF INVENTION: VEGF-RELATED PROTEIN
FILE REFERENCE: P0963R1D1
CURRENT FILING DATE: 1999-05-17
EARLIER FILING DATE: 1996-08-30
EARLIER APPLICATION NUMBER: US 08/706,054
EARLIER FILING DATE: 1995-09-08
NUMBER OF SEQ ID NOS: 12
SEQ ID NO 4
LENGTH: 147
TYPE: PRT
ORGANISM: Human
FEATURE:
NAME/KEY: Human
LOCATION: 1-147
OTHER INFORMATION: Sequence source: VEGE-121
US-09-313-299-4

Query Match
Best Local Similarity 86.7%; Score 104; DB 4; Length 147;
Best Local Similarity 85.0%; Pred. No. 4.2e-07;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CECRPKDRTPKCKDKPRR 20
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Db 128 CECRPKDRARQKCKDKPRR 147

RESULT 10
5194596-9
Patent No. 5194596
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR
NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 9
LENGTH: 120
5194596-9

Query Match
Best Local Similarity 84.2%; Score 101; DB 6; Length 120;
Best Local Similarity 80.0%; Pred. No. 8.7e-07;
Matches 16; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

OY 1 CECRPKDRTPKCKDKPRR 20
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Db 101 CECRPKDKARQKCKDKPRR 120

RESULT 11
5219739-9
Patent No. 5219739
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
JOHN C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGF120 AND
HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGF120 AND HVEGF121
NUMBER OF SEQUENCES: 40
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883

FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 9
LENGTH: 120
5219739-9

Query Match
Best Local Similarity 84.2%; Score 101; DB 6; Length 120;
Best Local Similarity 80.0%; Pred. No. 8.7e-07;
Matches 16; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

OY 1 CECRPKDRTPKCKDKPRR 20
|||||:|||||
Db 101 CECRPKDKARQKCKDKPRR 120

RESULT 12
US-09-431-888-3
Sequence 3, Application US/09431888A
Patent No. 6541008
GENERAL INFORMATION:
APPLICANT: Wise, Lyn M
APPLICANT: Mercer, Andrew A
APPLICANT: Savory, Loreen J
APPLICANT: Fleming, Stephen B
APPLICANT: Stacker, Stephen
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-LIKE PROTEIN FROM ORF
TITLE OF INVENTION: RECEPTOR-2, AND USES THEREOF
FILE REFERENCE: Sequence Listing for 09/431,833
Patent No. 6541008
CURRENT FILING DATE: 1999-11-02
EARLIER FILING DATE: 1998-11-02
EARLIER APPLICATION NUMBER: 60/106,689
EARLIER FILING DATE: 1998-11-03
EARLIER APPLICATION NUMBER: 60/106,800
NUMBER OF SEQ ID NOS: 11
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 3
LENGTH: 147
TYPE: PRT
ORGANISM: Homo sapiens
US-09-431-888-3

Query Match
Best Local Similarity 82.5%; Score 99; DB 4; Length 147;
Best Local Similarity 80.0%; Pred. No. 2e-06;
Matches 16; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 CECRPKDRTPKCKDKPRR 20
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Db 128 CECRPKDRARQKCKDKPRR 147

RESULT 13
US-09-037-983C-15
Sequence 15, Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfield, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Dis
FILE REFERENCE: 000274-00009
CURRENT FILING DATE: 1998-03-11
CURRENT APPLICATION NUMBER: US/09/037,983C
PRIOR FILING DATE: 1996-09-06
PRIOR APPLICATION NUMBER: 60/025,537
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 15
LENGTH: 136

TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-15

Query Match 72.1%; Score 86.5; DB 4; Length 136;
Best Local Similarity 48.6%; Pred. No. 8.6e-05;
Matches 17; Conservative 1; Mismatches 2; Indels 15; Gaps 1;

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Db 102 CECRPFKDRAROEKKSVRGKGKGRYKSWVC DKPRR 136

RESULT 14
US-09-037-983C-17
Sequence 17, Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodevsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 137
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-17

Query Match 71.7%; Score 86; DB 4; Length 137;
Best Local Similarity 47.2%; Pred. No. 0.0001;
Matches 17; Conservative 1; Mismatches 2; Indels 16; Gaps 1;

QY 1 CECRPFKDRTPKPEK-----KCDKPRR 20
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Db 102 CECRPFKDRAROEKKSVRGKGKGRYKSWVC DKPRR 137

RESULT 15
US-09-037-983C-16
Sequence 16, Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodevsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 16
LENGTH: 138
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-16

Query Match 71.2%; Score 85.5; DB 4; Length 138;
Best Local Similarity 45.3%; Pred. No. 0.00012;
Matches 17; Conservative 1; Mismatches 2; Indels 17; Gaps 1;

QY 1 CECRPFKDRTPKPEK-----CDKPRR 20

Db 102 CECRPFKDRAROEKKSVRGKGKGRYKSWVC DKPRR 138
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Job time : 8.51282 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: January 30, 2004, 11:44:49 ; Search time 19.7949 Seconds
(without alignments)
209.978 Million cell updates/sec

Title: US-09-266-543-4
120
Perfect score: 1 CECRPKDRTKPKCDKPRR 20
Sequence:

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 789580 seqs, 207824079 residues

Total number of hits satisfying chosen parameters: 789580

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Post-processing: Minimum Match 0%
Maximum Match 100%

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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result	Score	Query Match	Length	ID	Description
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1	104	86.7	105	9 US-09-925-299-927	Sequence 927, App
2	104	86.7	105	11 US-09-925-299-927	Sequence 927, App
3	104	86.7	121	11 US-09-832-355A-1	Sequence 1, Appli
4	104	86.7	147	12 US-10-346-802-4	Sequence 4, Appli
5	104	86.7	147	12 US-10-392-931-2	Sequence 2, Appli
6	104	86.7	147	12 US-10-418-529-2	Sequence 2, Appli
7	104	86.7	147	14 US-10-083-817-1	Sequence 1, Appli
8	104	86.7	147	15 US-10-268-447-2	Sequence 2, Appli
9	104	86.7	212	11 US-09-832-355A-84	Sequence 84, Appli
10	104	86.7	222	11 US-09-832-355A-79	Sequence 79, Appli
11	104	86.7	339	11 US-09-832-355A-97	Sequence 97, Appli
12	104	86.7	367	11 US-09-832-355A-94	Sequence 94, Appli
13	104	86.7	367	11 US-09-832-355A-104	Sequence 104, Appli
14	104	86.7	368	11 US-09-832-355A-74	Sequence 74, Appli
15	104	86.7	371	11 US-09-832-355A-89	Sequence 89, Appli

16	104	86.7	371	11 US-09-832-355A-103	Sequence 103, App
17	104	86.7	462	12 US-09-832-355A-100	Sequence 100, App
18	104	86.7	630	12 US-10-053-637-24	Sequence 24, Appli
19	104	86.7	648	11 US-09-832-355A-126	Sequence 126, App
20	104	86.7	650	12 US-10-053-637-28	Sequence 28, Appli
21	99	82.5	353	15 US-10-196-793A-57	Sequence 57, Appli
22	92.5	77.1	150	11 US-09-832-355A-61	Sequence 61, Appli
23	90.5	75.4	154	11 US-09-832-355A-59	Sequence 59, Appli
24	90.5	75.4	154	11 US-09-832-355A-62	Sequence 62, Appli
25	86.5	72.1	162	11 US-09-832-355A-60	Sequence 60, Appli
26	85.5	71.2	164	12 US-10-293-157-24	Sequence 24, Appli
27	85	70.8	190	12 US-09-921-143-7	Sequence 7, Appli
28	85	70.8	190	15 US-10-071-370A-2	Sequence 2, Appli
29	83	69.2	214	9 US-09-349-954A-22	Sequence 22, Appli
30	83	69.2	214	10 US-09-907-007-22	Sequence 22, Appli
31	82	68.3	145	12 US-10-319-828-2	Sequence 2, Appli
32	82	68.3	145	12 US-10-392-931-4	Sequence 4, Appli
33	82	68.3	145	12 US-10-418-529-4	Sequence 4, Appli
34	82	68.3	145	14 US-10-083-817-2	Sequence 2, Appli
35	82	68.3	145	15 US-10-268-447-4	Sequence 4, Appli
36	82	68.3	171	9 US-09-812-133-2	Sequence 2, Appli
37	73.5	61.3	188	12 US-10-293-157-28	Sequence 28, Appli
38	70	58.3	149	10 US-09-795-006A-115	Sequence 115, App
39	70	58.3	149	12 US-10-021-660-102	Sequence 102, App
40	70	58.3	149	12 US-10-346-802-5	Sequence 5, Appli
41	70	58.3	149	12 US-10-116-775-226	Sequence 226, App
42	70	58.3	149	15 US-10-201-386-55	Sequence 55, Appli
43	70	58.3	149	15 US-10-262-838-28	Sequence 28, Appli
44	69	57.5	12	15 US-10-156-932-73	Sequence 73, Appli
45	69	57.5	13	15 US-10-156-932-81	Sequence 81, Appli

ALIGNMENTS

RESULT 1
US-09-925-299-927 Application US/09925299
; Sequence 927, Patent No. US20020055627A1
; GENERAL INFORMATION:
; APPLICANT: Rosen et al.
; TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
; FILE REFERENCE: PA102
; CURRENT APPLICATION NUMBER: US/09/925,299
; CURRENT FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: PCT/US00/05883
; PRIOR FILING DATE: 2000-03-08
; PRIOR APPLICATION NUMBER: 60/124,270
; NUMBER OF SEQ ID NOS: 1556
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 927
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-925-299-927

Query Match 86.7%; Score 104; DB 9; Length 105;
Best Local Similarity 85.0%; Pred. No. 1.4e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

CY 1 CECRPKDRTKPKCDKPRR 20
DB 86 CECRPKDRTKPKCDKPRR 105

RESULT 2
US-09-925-299-927
; Sequence 927, Application US/09925299
; Publication No. US20030040617A9
; GENERAL INFORMATION:
; APPLICANT: Rosen et al.
; TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies

FILE REFERENCE: PA102
CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 927
LENGTH: 105
TYPE: PRT
ORGANISM: Homo sapiens
US-09-925-299-927

Query Match 86.7%; Score 104; DB 11; Length 105;
Best Local Similarity 85.0%; Pred. No. 1.4e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CECRPKDKRTKPEKCDKPRR 20
Db 86 CECRPKDKRARQEKCDKPRR 105

RESULT 3
US-09-832-355A-1
Sequence 1, Application US/09832355A
Publication No. US20030027751A1
GENERAL INFORMATION:
APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
SEQ ID NO 1
LENGTH: 121
TYPE: PRT
ORGANISM: Homo sapiens
US-09-832-355A-1

Query Match 86.7%; Score 104; DB 11; Length 121;
Best Local Similarity 85.0%; Pred. No. 1.6e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CECRPKDKRTKPEKCDKPRR 20
Db 102 CECRPKDKRARQEKCDKPRR 121

RESULT 4
US-10-346-802-4
Sequence 4, Application US/10346802
Publication No. US20030166873A1
GENERAL INFORMATION:
APPLICANT: Lee, James
APPLICANT: Wood, William I.
TITLE OF INVENTION: VEGF-RELATED PROTEIN
FILE REFERENCE: P0963R1D1
CURRENT APPLICATION NUMBER: US/10/346,802
CURRENT FILING DATE: 2003-01-17
PRIOR APPLICATION NUMBER: US/09/313,2998
PRIOR FILING DATE: 1999-05-17
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 08/706,054
PRIOR FILING DATE: EARLIER FILING DATE: 1996-08-30
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/003,491
PRIOR FILING DATE: EARLIER FILING DATE: 1995-09-08
NUMBER OF SEQ ID NOS: 12
SEQ ID NO 4
LENGTH: 147
TYPE: PRT

ORGANISM: Human
FEATURE:
NAME/KEY: Human
LOCATION: 1-147
OTHER INFORMATION: Sequence source: VEGF-121
US-10-346-802-4

Query Match 86.7%; Score 104; DB 12; Length 147;
Best Local Similarity 85.0%; Pred. No. 2e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CECRPKDKRTKPEKCDKPRR 20
Db 128 CECRPKDKRARQEKCDKPRR 147

RESULT 5
US-10-392-931-2
Sequence 2, Application US/10392931
Publication No. US20030194643A1
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
APPLICANT: Scios, Inc.
TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
FILE REFERENCE: SCIOS 003A
CURRENT APPLICATION NUMBER: US/10/392,931
CURRENT FILING DATE: 1999-09-09
PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 147
TYPE: PRT
ORGANISM: Homo sapien
US-10-392-931-2

Query Match 86.7%; Score 104; DB 12; Length 147;
Best Local Similarity 85.0%; Pred. No. 2e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CECRPKDKRTKPEKCDKPRR 20
Db 128 CECRPKDKRARQEKCDKPRR 147

RESULT 6
US-10-418-529-2
Sequence 2, Application US/10418529
Publication No. US20030220262A1
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
APPLICANT: Scios, Inc.
TITLE OF INVENTION: TREATMENT OF ECLAMPSIA AND PREECLAMPSIA
FILE REFERENCE: SCIOS 003C1
CURRENT APPLICATION NUMBER: US/10/418,529
CURRENT FILING DATE: 2003-04-16
PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
PRIOR APPLICATION NUMBER: 09/392931
PRIOR FILING DATE: 1999-09-09

NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 147
TYPE: PRT
ORGANISM: Homo sapien
US-10-418-529-2

Query Match 86.7%; Score 104; DB 12; Length 147;
Best Local Similarity 85.0%; Pred. No. 2e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
DB 128 CECRPKQRTKPEKCDKPRR 147

RESULT 7
US-10-083-817-1
Sequence 1, Application US/10083817
Publication No. US20020193288A1
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
FILE REFERENCE: SCIOS.002CI
CURRENT APPLICATION NUMBER: US/10/083,817
CURRENT FILING DATE: 2002-02-26
PRIOR APPLICATION NUMBER: 60/099,694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 09/392,932
PRIOR FILING DATE: 1999-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 1
LENGTH: 147
TYPE: PRT
ORGANISM: Homo Sapien
US-10-083-817-1

Query Match 86.7%; Score 104; DB 14; Length 147;
Best Local Similarity 85.0%; Pred. No. 2e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
DB 128 CECRPKQRTKPEKCDKPRR 147

RESULT 8
US-10-268-447-2
Sequence 2, Application US/10268447
Publication No. US20030096754A1
GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR
FILE REFERENCE: SCIOS.004DV1
CURRENT APPLICATION NUMBER: US/10/268,447
CURRENT FILING DATE: 2002-10-10
PRIOR APPLICATION NUMBER: 60/135,312
PRIOR FILING DATE: 1999-05-20
PRIOR APPLICATION NUMBER: 09/574,708
PRIOR FILING DATE: 2000-05-18
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 147
TYPE: PRT
ORGANISM: Homo sapiens
US-10-268-447-2

Query Match 86.7%; Score 104; DB 15; Length 147;
Best Local Similarity 85.0%; Pred. No. 2e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
DB 128 CECRPKQRTKPEKCDKPRR 147

RESULT 9
US-09-832-355A-84
Sequence 84, Application US/09832355A
Publication No. US20030027751A1
GENERAL INFORMATION:
APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
SEQ ID NO 84
LENGTH: 212
TYPE: PRT
ORGANISM: Artificial sequence
FEATURE:
NAME/KEY: misc.feature
LOCATION: ()
OTHER INFORMATION: Synthetic
US-09-832-355A-84

Query Match 86.7%; Score 104; DB 11; Length 212;
Best Local Similarity 85.0%; Pred. No. 2.8e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
DB 128 CECRPKQRTKPEKCDKPRR 147

RESULT 10
US-09-832-355A-79
Sequence 79, Application US/09832355A
Publication No. US20030027751A1
GENERAL INFORMATION:
APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
SEQ ID NO 79
LENGTH: 222
TYPE: PRT
ORGANISM: Artificial sequence
FEATURE:
NAME/KEY: misc.feature
LOCATION: ()
OTHER INFORMATION: Synthetic
US-09-832-355A-79

Query Match 86.7%; Score 104; DB 11; Length 222;
Best Local Similarity 85.0%; Pred. No. 2.9e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKQRTKPEKCDKPRR 20
DB 128 CECRPKQRTKPEKCDKPRR 147

```
RESULT 11
US-09-832-355A-97
; Sequence 97, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kessler, Imre
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 97
; LENGTH: 339
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; NAME/KEY: misc.feature
; LOCATION: (1..7)
; OTHER INFORMATION: Synthetic
US-09-832-355A-97
```

```
Query Match      86.7%; Score 104; DB 11; Length 339;
Best Local Similarity 85.0%; Pred. No. 4.4e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
```

```
OY      1 CECRPKDKRTPEKCDKPRR 20
|||||:|||||
DB      128 CECRPKDKRARQEKCDKPRR 147
```

```
RESULT 12
US-09-832-355A-94
; Sequence 94, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kessler, Imre
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 94
; LENGTH: 367
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; NAME/KEY: misc.feature
; LOCATION: (1..7)
; OTHER INFORMATION: Synthetic
US-09-832-355A-94
```

```
Query Match      86.7%; Score 104; DB 11; Length 367;
Best Local Similarity 85.0%; Pred. No. 4.8e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
```

```
OY      1 CECRPKDKRTPEKCDKPRR 20
|||||:|||||
DB      128 CECRPKDKRARQEKCDKPRR 147
```

```
RESULT 13
US-09-832-355A-104
; Sequence 104, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kessler, Imre
; APPLICANT: Kessler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS
```

```
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 104
; LENGTH: 367
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; NAME/KEY: misc.feature
; LOCATION: (1..7)
; OTHER INFORMATION: Synthetic
US-09-832-355A-104
```

```
Query Match      86.7%; Score 104; DB 11; Length 367;
Best Local Similarity 85.0%; Pred. No. 4.8e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
```

```
OY      1 CECRPKDKRTPEKCDKPRR 20
|||||:|||||
DB      128 CECRPKDKRARQEKCDKPRR 147
```

```
RESULT 14
US-09-832-355A-74
; Sequence 74, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kessler, Imre
; APPLICANT: Kessler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 74
; LENGTH: 368
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; NAME/KEY: misc.feature
; LOCATION: (1..7)
; OTHER INFORMATION: Synthetic
US-09-832-355A-74
```

```
Query Match      86.7%; Score 104; DB 11; Length 368;
Best Local Similarity 85.0%; Pred. No. 4.8e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
```

```
OY      1 CECRPKDKRTPEKCDKPRR 20
|||||:|||||
DB      128 CECRPKDKRARQEKCDKPRR 147
```

```
RESULT 15
US-09-832-355A-89
; Sequence 89, Application US/09832355A
; Publication No. US20030027751A1
; GENERAL INFORMATION:
; APPLICANT: Kessler, Imre
; APPLICANT: Kessler, Paul
; TITLE OF INVENTION: VEGF FUSION PROTEINS
; FILE REFERENCE: 205654
; CURRENT APPLICATION NUMBER: US/09/832,355A
; CURRENT FILING DATE: 2001-04-10
; NUMBER OF SEQ ID NOS: 126
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 89
; LENGTH: 371
; TYPE: PRT
; ORGANISM: Artificial sequence
```

```
;
; FEATURE:
; NAME/KEY: misc feature
; LOCATION: ().()
; OTHER INFORMATION: Synthetic
US-09-832-355A-89
```

```
Query Match      86.7%; Score 104; DB 11; Length 371;
Best Local Similarity 85.0%; Pred. No. 4.9e-06;
Matches 17; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
```

```
Qy      1 CECRPKDRTPKPKDKPRR 20
         |||||:|||||
Db      128 CECRPKDRARQKCDKPRR 147
```

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Search completed: January 30, 2004, 12:15:01
Job time : 19.9199 secs
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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:34:23 ; Search time 8.61539 Seconds

(without alignments)
223.249 Million cell updates/sec

Title: US-09-266-543-4

Perfect score: 120

Sequence: 1 CECRPKDKRTKPKCDKPRR 20

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :
1: p1r1:*
2: p1r2:*
3: p1r3:*
4: p1r4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	101	84.2	120	2 A33787	vascular endotheli
2	101	84.2	146	2 S57956	ovine vascular end
3	85	70.8	190	2 B44881	vascular endotheli
4	85	70.8	190	2 A35987	glioma-derived vas
5	83	69.2	214	2 A44881	vascular endotheli
6	70	58.3	149	2 A41236	placental growth f
7	69	57.5	190	2 S52130	vascular endotheli
8	67	55.8	232	2 A41551	vascular endotheli
9	66	55.0	190	2 B40080	vascular endotheli
10	57	47.5	163	1 XUBYSO	dihydroliopamide S
11	55.5	46.2	128	2 I51295	vascular endotheli
12	55	45.8	1786	1 MMHUB1	laminin beta-1 cha
13	55	45.8	1786	1 MMMSB1	laminin beta-1 cha
14	52.5	43.8	188	2 UC4680	vascular endotheli
15	51	42.5	133	2 B49530	vascular endotheli
16	51	42.5	207	2 JC4679	vascular endotheli
17	50	41.7	293	2 T09028	hypothetical prote
18	49.5	41.2	160	2 J00542	185k secretory pro
19	49.5	41.2	1520	2 T27283	hypothetical prote
20	49.5	41.2	1700	2 S08167	Balbiant ring 3 pr
21	49	40.8	206	2 G97268	uracil-DNA glycosy
22	49	40.0	271	2 T08009	hypothetical prote
23	48	39.2	158	2 A56125	probable ribosomal
24	47	39.2	114	2 C29960	placental growth f
25	47	39.2	1038	2 T13177	Balbiant ring 2 ch
26	47	39.2	1038	2 T13177	soy protein - frui
27	47	39.2	2616	2 A57096	nudel protein prec
28	47	39.2	3951	1 VFTHB1	fl protein - avian
29	45.5	37.9	248	1 JH0612	amphiregulin precu

30	45.5	37.9	581	2 B54665	netrin-2 precursor
31	45.5	37.9	606	2 A54665	netrin-1 precursor
32	45	37.5	249	2 T24604	hypothetical prote
33	45	37.5	261	2 JN0747	histone H1-I - Vol
34	45	37.5	376	2 S71558	probable cell wall
35	45	37.5	465	2 S56203	regulatory protein
36	45	37.5	36	2 S56229	catechol oxidase (
37	45	37.5	2823	2 T23064	hypothetical prote
38	45	37.5	2823	2 F87908	protein T22A3.8 (1
39	45	37.5	3102	2 T43291	laminin alpha cha
40	44.5	37.1	392	2 T19327	hypothetical prote
41	44.5	37.1	397	2 D96580	hypothetical prote
42	44.5	37.1	460	2 T33596	hypothetical prote
43	44	36.7	79	2 S01718	Balbiant ring prot
44	44	36.7	95	2 S01717	Balbiant ring prot
45	44	36.7	99	2 A55819	nonhistone chromos

ALIGNMENTS

```

RESULT 1
A33787
vascular endothelial growth factor (version 1) - bovine
C:Species: Bos primigenius taurus (cattle)
C>Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C:Accession: A33787
R:Riescher, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crist
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989.
A>Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
A:Reference number: A33787; MUID:90121225; PMID:2610687
A:Accession: A33787
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-120 <TIS>
A:Cross-references: GB:M33750; NID:G163810; PIDN:AAA30805.1; PID:G163811
C:Keywords: alternative splicing

Query Match
Best Local Similarity 84.2%; Score 101; DB 2; Length 120;
Matches 16; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CECRPKDKRTKPKCDKPRR 20
Db 101 CECRPKDKAROKCDKPRR 120
|||||:|||||
|:|:|:|:|:|

RESULT 2
S57956
ovine vascular endothelial growth factor - sheep
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C>Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
R:Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.
submitted to the EMBL Data Library, July 1995
A:Reference number: S57956
A:Accession: S57956
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-146 <RED>
A:Cross-references: EMBL:X89506; NID:G899350; PIDN:CAA61677.1; PID:G899351

Query Match
Best Local Similarity 84.2%; Score 101; DB 2; Length 146;
Matches 16; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CECRPKDKRTKPKCDKPRR 20
Db 127 CECRPKDKAROKCDKPRR 146
|||||:|||||
|:|:|:|:|:|

RESULT 3
B44881

```

```

vascular endothelial growth factor-1 precursor - mouse
C:Species: Mus musculus (house mouse)
C>Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
C:Accession: B44881; A43351; A61029
R:Breiter, G.; Albrecht, U.; Sterrer, S.; Risau, W.
Development 114, 521-532, 1992
A>Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
A:Reference number: A44881; MUID:92274860; PMID:1592003
A:Accession: B44881
A:Molecule type: mRNA
A:Residues: 1-190 <BR>
A:Cross-references: GB:S38083; NID:9249858; PIDN:AA62253.1; PID:9249859
A:Experimental source: embryo
A>Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBI:107622)
R:Clafey, K.P.; Milkison, W.O.; Spiegelman, B.M.
J. Biol. Chem. 267, 16517-16522, 1992
A>Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti
A:Reference number: A43351; MUID:92355593; PMID:1644816
A:Accession: A43351
A:Molecule type: mRNA
A:Residues: 1-116, ER, 119-190 <CLA>
A:Cross-references: GB:M95200; NID:9202350; PIDN:AAA0547.1; PID:9202351
A>Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBI:110675)
R:Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J.
Growth Factors 4, 53-59, 1990
A>Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial g
A:Reference number: A61029; MUID:91197543; PMID:2085441
A:Accession: A61029
A:Molecule type: protein
A:Residues: 27-38 <ROS>
C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mlt

Query Match          70.8%; Score 85; DB 2; Length 190;
Best Local Similarity 29.7%; Pred. No. 0.00027;
Matches 19; Conservative 1; Mismatches 0; Indels 44; Gaps 1;

QY 1 CECRPKDKRTKPE-----KCD 16
    |||||
DB 127 CECRPKDKRTKENHCEPESERKHLFVQDPQCKSCKNTDSRCKARQLEINERTCRD 186
    |||||
QY 17 KPRR 20
    ||||
DB 187 KPRR 190

RESULT 4
A35987
glioma-derived vascular endothelial cell growth factor - rat
C:Species: Rattus norvegicus (Norway rat)
C>Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
C:Accession: A35987
R:Conn, G.; Bayne, M.L.; Soderman, D.D.; Krok, P.W.; Sullivan, K.A.; Palisi, T.M.; Hope,
Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A>Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is ho
A:Reference number: A35987; MUID:90207249; PMID:2320579
A:Accession: A35987
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-190 <CON>
A:Cross-references: GB:M32167; NID:9204287; PIDN:AAA1211.1; PID:9204288

Query Match          70.8%; Score 85; DB 2; Length 190;
Best Local Similarity 29.7%; Pred. No. 0.00027;
Matches 19; Conservative 1; Mismatches 0; Indels 44; Gaps 1;

QY 1 CECRPKDKRTKPE-----KCD 16
    |||||
DB 127 CECRPKDKRTKENHCEPESERKHLFVQDPQCKSCKNTDSRCKARQLEINERTCRD 186
    |||||
QY 17 KPRR 20
    ||||
DB 187 KPRR 190

```

```

RESULT 5
A44881
vascular endothelial growth factor-3 precursor - mouse
N:Context: vascular endothelial growth factor-2; vascular permeability factor
C:Species: Mus musculus (house mouse)
C>Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999
C:Accession: A44881; A44881; A60932; S52136
R:Breiter, G.; Albrecht, U.; Sterrer, S.; Risau, W.
Development 114, 521-532, 1992
A>Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
A:Reference number: A44881; MUID:92274860; PMID:1592003
A:Accession: A44881
A:Molecule type: mRNA
A:Residues: 1-214 <BR>
A:Cross-references: GB:S37052; NID:9249856; PIDN:AA62252.1; PID:9249857
A:Experimental source: embryo
A>Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBI:104678)
A:Accession: C44881
A:Molecule type: mRNA
A:Residues: 1-140, 209-214 <BR>
A:Cross-references: GB:S38100; NID:9249860; PIDN:AA62254.1; PID:9249861
A>Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBI:107625)
R:Clausen, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan, Y.C.
J. Exp. Med. 172, 1535-1545, 1990
A>Title: Vascular permeability factor: a tumor-derived polypeptide that induces endothel
A:Reference number: A60932; MUID:91079755; PMID:2258694
A:Accession: A60932
A:Molecule type: protein
A:Residues: 27-33 <CLA>
R:Sugihara, T.; Kaul, S.C.; Mitsu, Y.; Wadhwa, R.
Biochim. Biophys. Acta 1224, 365-370, 1994
A>Title: Enhanced expression of multiple forms of VEGF is associated with spontaneous im
A:Reference number: S52136; MUID:95101726; PMID:7803491
A:Accession: S52136
A:Status: preliminary
A:Molecule type: protein
A:Residues: 27-46 <SUG>
C:Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
C:Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homodimer;
F/27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>

Query Match          69.2%; Score 83; DB 2; Length 214;
Best Local Similarity 100.0%; Pred. No. 0.00054;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CECRPKDKRTKPEK 14
    |||||
DB 127 CECRPKDKRTKPEK 140

RESULT 6
A41236
placental growth factor precursor - human
C:Species: Homo sapiens (man)
C>Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 05-Nov-1999
C:Accession: A41236
R:Magliione, D.; Guerriero, V.; Viglietto, G.; Della-Bovi, P.; Persico, M.G.
Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, 1991
A>Title: Isolation of a human placenta cDNA coding for a protein related to the vascular
A:Reference number: A41236; MUID:92021031; PMID:1924389
A:Accession: A41236
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-149 <MAG>
A:Cross-references: GB:X54936; NID:935521; PIDN:CAA38698.1; PID:935522
A:Genetics:
A:Gene: GDB:PGF
A:Cross-references: GDB:134676; OMIM:601121
A:Map position: 14q24-14q31

Query Match          58.3%; Score 70; DB 2; Length 149;

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Best Local Similarity 54.5%; Pred. No. 0.022;
Matches 12; Conservative 4; Mismatches 4; Indels 2; Gaps 1;

OY 1 CECRPKDRTKPEKCDK--PRR 20
    |||||:||||:||||
Db 128 CECRPLREKMKPERCGDAVPRR 149

RESULT 7
S52130
vascular endothelial growth factor - pig
C.Species: Sus scrofa domestica (domestic pig)
C.Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C.Accession: S52130
R.Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
A.Title: Nucleotide sequence and expression of the porcine vascular endothelial growth f
A.Reference number: S52130; MUID:95143284; PMID:7841203
A.Accession: S52130
A.Status: preliminary
A.Molecule type: mRNA
A.Residues: 1-190 <SHA>
A.Cross-references: GB:M63972; NID:9587559; PIDN:CAA57143.1; PID:9587560

Query Match 57.5%; Score 69; DB 2; Length 190;
Best Local Similarity 25.0%; Pred. No. 0.036;
Matches 16; Conservative 2; Mismatches 2; Indels 44; Gaps 1;

OY 1 CECRPKDRTKPE-----KCD 16
    |||||:||||:||||
Db 127 CECRPKDRTKPEKCDK--PRR 20
    |||||:||||:||||
OY 17 KPRR 20
    ||||
Db 187 KPRR 190

RESULT 8
A41551
vascular endothelial growth factor 206 precursor - human
N.Alternate names: vascular permeability factor
N.Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; VEGF
C.Species: Homo sapiens (man)
C.Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999
C.Accession: A41551; C41551; B41551; A40454; B40454; A40079; A40080; JQ1463; JQ1
R.Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
Mol. Endocrinol. 5, 1806-1814, 1991
A.Title: The vascular endothelial growth factor family: identification of a fourth molec
A.Reference number: A41551; MUID:92168017; PMID:1791831
A.Accession: A41551
A.Molecule type: mRNA
A.Residues: 1-232 <HOU1>
A.Cross-references: GB:S85192; NID:9246155; PID:9246156
A.Accession: C41551
A.Status: nucleic acid sequence not shown
A.Molecule type: mRNA
A.Residues: 1-140 'N', 183-232 <HOU2>
A.Accession: B41551
A.Status: nucleic acid sequence not shown, not compared with conceptual translation
A.Molecule type: mRNA
A.Residues: 1-141, 227-232 <HOU>
R.Tischer, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.; At
J. Biol. Chem. 266, 11947-11954, 1991
A.Title: The human gene for vascular endothelial growth factor. Multiple protein forms a
A.Reference number: A40454; MUID:91268072; PMID:1711045
A.Accession: A40454
A.Molecule type: DNA
A.Residues: 1-165, 183-232 <TII>
A.Cross-references: GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976; GB
A.Accession: B40454
A.Molecule type: DNA
A.Residues: 1-140, 'N', 183-232 <TII>
A.Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976; GB

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A.Accession: C40454
A.Molecule type: DNA
A.Residues: 1-141, 227-232 <TII>
A.Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976
R.Keck, P.J.; Hauser, S.D.; Kivri, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D.T.
Science 246, 1309-1312, 1989
A.Title: Vascular permeability factor: an endothelial cell mitogen related to PDGF.
A.Reference number: A40079; MUID:90069609; PMID:2479987
A.Accession: A40079
A.Status: not compared with conceptual translation
A.Molecule type: mRNA
A.Residues: 1-165, 183-232 <KEC>
A.Cross-references: GB:M27281; NID:9340300; PIDN:AAA36807.1; PID:9340301
R.Keck, P.J.; Hauser, S.D.; Kivri, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D.T.
Science 246, 1306-1309, 1989
A.Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
A.Reference number: A40080; MUID:90069608; PMID:2479986
A.Accession: A40080
A.Status: not compared with conceptual translation
A.Molecule type: mRNA
A.Residues: 1-140, 'N', 183-232 <LEU>
A.Cross-references: GB:M29277; NID:9181970; PIDN:AAA35789.1; PID:9181971
R.Weinreb, K.; Marne, D.; Weich, H.A.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A.Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
A.Reference number: JQ1463; MUID:92231879; PMID:1567395
A.Accession: JQ1463
A.Molecule type: mRNA
A.Residues: 1-140, 'N', 183-232 <ME1>
A.Cross-references: EMBL:X65566; NID:937658; PIDN:CAA44447.1; PID:937659
A.Experimental source: AIDS-Kaposi's sarcoma cell
A.Accession: JQ1464
A.Molecule type: mRNA
A.Residues: 1-140, 'N', 227-232 <ME2>
A.Experimental source: AIDS-Kaposi's sarcoma cell
R.Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monseil, R.; Siegel, N.; Hay
J. Biol. Chem. 264, 20017-20024, 1989
A.Title: Human vascular permeability factor. Isolation from U937 cells.
A.Reference number: A34492; MUID:90062112; PMID:2564205
A.Accession: A34492
A.Molecule type: protein
A.Residues: 27-36/43-49, 'R', 72-76, 'Q', 78-81, 59-71 <CON>
C.Comment: The most common of several alternatively spliced forms is VEGF 165.
C.Genetics:
A.Gene: GDB:VEGF
A.Cross-references: GDB:132244; OMIM:192240
A.Map position: 6p21-6p12
A.Description: promotes fluid and protein leakage from blood vessels
C.Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pro
F.1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <V20
F.1-165, 183-232/Product: vascular endothelial growth factor 189 precursor #status predic
F.1-141, 227-232/Product: vascular endothelial growth factor 121 precursor #status predic
F.1-26/Domain: signal sequence #status predicted <SIG>
F.101/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 55.8%; Score 67; DB 2; Length 232;
Best Local Similarity 78.6%; Pred. No. 0.078;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CECRPKDRTKPEK 14
    |||||:||||:||||
Db 128 CECRPKDRTKPEK 141

RESULT 9
B40080
vascular endothelial growth factor precursor (version 2) - bovine
C.Species: Bos primigenius taurus (cattle)
C.Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
C.Accession: B40080; B33787; A33255
R.Keck, P.J.; Hauser, S.D.; Kivri, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D.T.
Science 246, 1306-1309, 1989

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A>Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
 A:Reference number: A40080; MUID:90069608; PMID:2479986
 A:Accession: BA0080
 A:Molecule type: mRNA
 A:Residues: 1-190 <LEU>
 A:Cross-references: GB:M32976; NID:9163006; PIDN:AAA0502.1; PID:9163007
 R:Richter, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crist
 Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
 A>Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
 A:Reference number: A33787; MUID:90121225; PMID:2610687
 A:Accession: B33787
 A:Molecule type: mRNA
 A:Residues: 27-190 <TIS>
 A:Cross-references: GB:M31836; NID:9163808; PIDN:AAA0804.1; PID:9163809
 R:Ferrara, N.; Henzel, W.J.
 Biochem. Biophys. Res. Commun. 161, 851-858, 1989
 A>Title: Placental follicular cells secrete a novel heparin-binding growth factor specific
 A:Reference number: A33255; MUID:89286596; PMID:2735925
 A:Accession: A33255
 A:Molecule type: protein
 A:Residues: 27-31 <PER>
 C:Keywords: alternative splicing; glycoprotein
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:27-190/Product: vascular endothelial growth factor #status predicted <MAT>
 F:100/Binding site: carbohydrate (Aen) (covalent) #status predicted

Query Match 55.0%; Score 66; DB 2; Length 190;
 Best Local Similarity 23.4%; Pred. No. 0.09;
 Matches 15; Conservative 3; Mismatches 2; Indels 44; Gaps 1;

Qy 1 CECRPKDKTPKPE-----KCD 16
 Db 127 CECRPKDKARBNCGPCSEKRLIFVODPOTCKSCNMTSRCKARQLEINERTCKD 186

Qy 17 KRRR 20
 Db 187 KRRR 190

RESULT 10
 XUBVSD
 dihydrolipoamide S-succinyltransferase (EC 2.3.1.61) precursor - yeast (Saccharomyces cerevisiae)
 N:Alternate names: alpha-ketoglutarate dehydrogenase complex chain K22; dihydrolipoamide
 C:Species: Saccharomyces cerevisiae
 C:Date: 30-Sep-1991 #sequence revision 12-Apr-1996 #text_change 05-May-2000
 C:Accession: S57975; A35654; S78755; S11195
 R:Murphy, L.; Richards, C.; Harris, D.
 submitted to the EMBL Data Library, July 1995
 A:Reference number: S57971
 A:Accession: S57975
 A:Molecule type: DNA
 A:Residues: 1-463 <MUR>
 A:Cross-references: EMBL:Z50046; NID:9899393; PIDN:CAA90371.1; PID:9899398; GSPDB:GNO000
 A:Experimental source: strain AB972
 R:Repetto, B.; Tzagoloff, A.
 Mol. Cell. Biol. 10, 4221-4232, 1990
 A>Title: Structure and regulation of KSD2, the structural gene for yeast dihydrolipoamide
 A:Reference number: A35654; MUID:90318388; PMID:2115121
 A:Accession: A35654
 A:Molecule type: DNA
 A:Residues: 1-169 'HRRKVPQKTVKRLOR', 188, 'KLOR', 194, 'KPLOR', 200, 'KLONO', 206, 'RT', 209-
 A:Cross-references: EMBL:M34531; NID:9171782; PIDN:AAA34720.1; PID:9171783
 R:Ruecknagel, K.P.; Rospert, S.
 submitted to the Protein Sequence Database, March 1999
 A:Reference number: S78755
 A:Accession: S78755
 A:Molecule type: protein
 A:Residues: 72-83 <RUE>
 C:Genetics:
 A:Gene: SGD:KGD2; MIPS:YDR148C
 A:Cross-references: SGD:S0002555; MIPS:YDR148C
 A:Map position: 4R
 A:Genome: nuclear

C:Superfamily: dihydrolipoamide acetyltransferase; lipoyl/biotin-binding homology
 C:Keywords: acetyl-CoA; acyltransferase; coenzyme A; lipoyl; biotin; mitochondrion; tricarbox
 F:1-71/Domain: transit peptide (mitochondrion) #status experimental <TRP>
 F:72-463/Product: dihydrolipoamide S-succinyltransferase #status experimental <MAT>
 F:75-148/Domain: lipoyl/biotin-binding homology <LBP>
 F:114/Binding site: lipoyl (lys) (covalent) #status predicted
 F:435/439/Active site: His, Asp #status predicted

Query Match 47.5%; Score 57; DB 1; Length 463;
 Best Local Similarity 47.4%; Pred. No. 2.9;
 Matches 9; Conservative 6; Mismatches 4; Indels 0; Gaps 0;

Qy 2 CECRPKDKTPKDKPKR 20
 Db 195 EAPRKETTERKADQPKK 213

RESULT 11
 151295
 vascular endothelial growth factor - quail (fragment)
 C:Species: Phasianidae gen. sp. (quail)
 C:Date: 13-Sep-1996 #sequence revision 13-Sep-1996 #text_change 28-Feb-1997
 C:Accession: 151295
 R:Flamme, I.; Breier, G.; Risaau, W.
 Dev. Biol. 169, 699-712, 1995
 A>Title: Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (Flk-1) are expe
 A:Reference number: 151295; MUID:95301109; PMID:7781909
 A:Accession: 151295
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-128 <FLA>
 A:Cross-references: GB:S78343; NID:9999147; PID:9999148
 C:Genetics:
 A:Gene: VEGF

Query Match 46.2%; Score 55.5; DB 2; Length 128;
 Best Local Similarity 61.1%; Pred. No. 1.6;
 Matches 11; Conservative 2; Mismatches 4; Indels 1; Gaps 1;

Qy 1 CECRPKDKTPKPKCKR 17
 Db 69 CECRPKDKVKNKCKSK 86

RESULT 12
 MMTUB1
 laminin beta-1 chain precursor - human
 N:Alternate names: laminin chain B1
 C:Species: Homo sapiens (man)
 C:Date: 30-Jun-1991 #sequence revision 30-Jun-1991 #text_change 19-Jan-2001
 C:Accession: S13547; A28483; F26994; S23566
 R:Vuolteenaho, R.; Chow, L.T.; Tryggvason, K.
 J. Biol. Chem. 265, 15611-15616, 1990
 A>Title: Structure of the human laminin B1 chain gene.
 A:Reference number: S13547; MUID:90368768; PMID:1975589
 A:Accession: S13547
 A:Status: nucleic acid sequence not shown; translation not shown
 A:Molecule type: DNA
 A:Residues: 1-1786 <VVO>
 A:Cross-references: GB:M61951; GB:J02778; NID:9186911; PIDN:AAA59486.1; PID:9186913
 A>Note: the nucleotide sequence was submitted to GenBank, February 1991
 R:Pikkarainen, T.; Eddy, R.; Fukushima, Y.; Byers, M.; Shows, T.; Pihlajaniemi, T.; Sarp
 U. Biol. Chem. 262, 10454-10462, 1987
 A>Title: Human laminin B1 chain. A multidomain protein with gene (LMNB1) locus in the q2
 A:Reference number: A28483; MUID:87280097; PMID:3611077
 A:Accession: A28483
 A:Molecule type: mRNA
 A:Residues: 1-1786 <PIK>
 A:Cross-references: GB:M61951; GB:J02778; NID:9186911; PIDN:AAA59486.1; PID:9186913
 R:Jay, M.; Modi, W.S.; Ricca, G.A.; Mudd, R.; Chiu, I.M.; O'Brien, S.J.; Droman, W.N.
 Am. J. Hum. Genet. 41, 605-615, 1987
 A>Title: Isolation of a cDNA clone for the human laminin-B1 chain and its gene localiza
 A:Reference number: A26994; MUID:88021029; PMID:3661559

A:Accession: A26994
 A:Molecule type: mRNA
 A:Residues: 1276-1469, 'V', 1471-1695, 'G', 1697-1709 <JAY>
 A:Cross-references: EMBL:M20206; NID:g186914; PION:AA5487.1; PID:g186915
 R:Vuolteenaho, R.; Kallunki, T.; Chow, L.; Ikonen, J.; Pikkari, T.; Tytgavsson, K.
 In Extracellular Matrix Genes, Sandell L.J. and Boyd C.D., eds., pp. 175-193, Academic F
 A:Title: Genes for the human laminin B1 and B2 chains.
 A:Reference number: S23566
 A:Accession: S23566
 A:Molecule type: DNA
 A:Residues: 762-1786 <VU2>
 A:Note: mRNA was also sequenced
 C:Genetics:
 A:Gene: GDB:LAMB1
 A:Cross-references: GDB:119357; OMIM:150240
 A:Map position: 7q31.1-7q31.3
 A:Intons: 13/1, 71/3, 117/1, 141/3, 204/3, 226/1, 293/3, 334/1, 397/1, 457/1, 494/3, 52
 64/3, 1513/1, 1582/2, 1629/3, 1688/3, 1742/1
 C:Complex: Laminins are trimers of an alpha-type, a beta-type, and a gamma-type laminin
 C:Function:
 A:Description: Interact with cells and with other basement membrane proteins to promote
 C:Keywords: basement membrane; calcium binding; cell binding; coiled coil; extracellular
 F:1-21/Domain: signal sequence #status predicted <SIG>
 F:22-1786/Product: laminin beta-1 chain #status predicted <MAT>
 F:22-170/Domain: VI <DOM5>
 F:271-548/Domain: V <DOM5>
 F:271-333/Domain: laminin-type EGF-like homology <LEB01>
 F:335-395/Domain: laminin-type EGF-like homology <LEB02>
 F:398-455/Domain: laminin-type EGF-like homology <LEB03>
 F:458-507/Domain: laminin-type EGF-like homology <LEB04>
 F:463-466/Region: cell adhesion #status predicted
 F:510-540/Domain: laminin-type EGF-like homology #status atypical <LEB05>
 F:549-774/Domain: IV <DOM4>
 F:662-668/Region: cell adhesion #status predicted
 F:773-818/Domain: laminin-type EGF-like homology <LEB06>
 F:775-118/Domain: III <DOM3>
 F:821-864/Domain: laminin-type EGF-like homology <LEB07>
 F:867-914/Domain: laminin-type EGF-like homology <LEB08>
 F:917-973/Domain: laminin-type EGF-like homology <LEB09>
 F:923-927/Region: cell adhesion #status predicted
 F:950-954/Region: cell adhesion #status predicted
 F:976-1025/Domain: laminin-type EGF-like homology <LEB10>
 F:1028-1081/Domain: laminin-type EGF-like homology <LEB11>
 F:1084-1129/Domain: laminin-type EGF-like homology <LEB12>
 F:1133-1176/Domain: laminin-type EGF-like homology <LEB13>
 F:1179-1397/Domain: II <DOM2>
 F:1179-1397/Region: heptad repeats
 F:1398-1430/Domain: alpha <ALP>
 F:1431-1786/Region: I <DOM1>
 F:1431-1786/Region: heptad repeats
 F:30-35/Disulfide bonds: #status predicted
 F:120,356,519,677,965,1041,1195,1279,1336,1343,1487,1542,1643/Binding site: carbohydrate
 F:1179,1182,1785/Disulfide bonds: interchain #status predicted

Query Match 45.8%; Score 55; DB 1; Length 1786;
 Best Local Similarity 52.9%; Pred. No. 16;
 Matches 9; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

DB 1 CECRPKQRTKPEKCDK 17
 976 CQCHNNIDTTPDEACDK 992

RESULT 13
 MMSB1
 laminin beta-1 chain precursor - mouse
 N:Alternate names: laminin chain B1
 C:Species: Mus musculus (house mouse)
 C:Date: 28-Feb-1986 #sequence revision 30-Jun-1991 #ext-change 10-Dec-1999
 C:Accession: A26413; S02679; S05326; S14877; A02871; S02036; S13543
 R:Saeki, M.; Kato, S.; Kohno, K.; Martin, G.R.; Yamada, Y.
 Proc. Natl. Acad. Sci. U.S.A. 84, 935-939, 1987

A:Title: Sequence of the cDNA encoding the laminin B1 chain reveals a multidomain protei
 A:Reference number: A26413; MUID:87147212; PMID:3493487
 A:Accession: A26413
 A:Molecule type: mRNA
 A:Residues: 1-1786 <SAS>
 A:Cross-references: EMBL:M15525; NID:g198700
 A:Note: translation in GenBank has additional 48 residues at the amino end
 R:Fujiwara, S.; Shinkai, H.; Deutzmann, R.; Paulsson, M.; Timpl, R.
 Biochem. J. 252, 453-461, 1988
 A:Title: Structure and distribution of N-linked oligosaccharide chains on various domain
 A:Reference number: S02678; MUID:88326259; PMID:2458101
 A:Accession: S02678
 A:Molecule type: protein
 A:Residues: 28-42,932-946 <FUJ>
 R:Hartl, L.; Oberbauer, I.; Deutzmann, R.
 Eur. J. Biochem. 173, 629-635, 1988
 A:Title: The N termini of laminin A chain is homologous to the B chains.
 A:Reference number: S00624; MUID:86225080; PMID:3267223
 A:Accession: S05326
 A:Molecule type: protein
 A:Residues: 457-466,854-868,932-946 <HAR>
 R:Mann, K.; Deutzmann, R.; Timpl, R.
 Eur. J. Biochem. 178, 71-80, 1988
 A:Title: Characterization of proteolytic fragments of the laminin-nidogen complex and th
 A:Reference number: S08895; MUID:89078415; PMID:2462498
 A:Accession: S14877
 A:Molecule type: protein
 A:Residues: 590-620 <MAN>
 R:Barlow, D.P.; Green, N.M.; Kurkinen, M.; Hogan, B.L.M.
 EMBO J. 3, 2355-2362, 1984
 A:Title: Sequencing of laminin B chain cDNAs reveals C-terminal regions of coiled-coil a
 A:Reference number: A02870; MUID:85051302; PMID:6209134
 A:Accession: A02871
 A:Molecule type: mRNA
 A:Residues: 1292-1530, 'MEMP', 1535-1691, 'C', 1693-1748, 'N', 1750-1786 <BAR>
 A:Cross-references: EMBL:X05212; NID:G92861; PION:CA28839.1; PID:G809042
 R:Deutzmann, R.; Huber, J.; Schmetz, K.A.; Oberbauer, I.; Hartl, L.
 Eur. J. Biochem. 177, 35-45, 1988
 A:Title: Structural study of long arm fragments of laminin. Evidence for repetitive C-te
 A:Reference number: S01790; MUID:89030693; PMID:3181157
 A:Accession: S02036
 A:Molecule type: protein
 A:Residues: 1561-1587 <DEU>
 R:Paulsson, M.; Deutzmann, R.; Timpl, R.; Dalzoppo, D.; Odermatt, E.; Engel, J.
 EMBO J. 4, 309-316, 1985
 A:Title: Evidence for coiled-coil alpha-helical regions in the long arm of laminin.
 A:Reference number: S13543; MUID:85257455; PMID:3848400
 A:Accession: S13543
 A:Molecule type: protein
 A:Residues: 1700-1748, 'N', 1750-1759 <PAU>
 C:Genetics:
 A:Gene: Lamb-1
 A:Map position: 12
 C:Complex: Laminins are trimers of an alpha-type, a beta-type, and a gamma-type laminin
 C:Function:
 A:Description: Interact with cells and with other basement membrane proteins to promote
 C:Superfamily: laminin beta-1 chain; laminin-type EGF-like homology
 C:Keywords: basement membrane; calcium binding; cell binding; coiled coil; extracellular
 F:1-21/Domain: signal sequence #status predicted <SIG>
 F:22-1786/Product: laminin beta-1 chain #status predicted <MAT>
 F:22-270/Domain: VI <DOM5>
 F:271-540/Domain: V <DOM5>
 F:271-332/Domain: laminin-type EGF-like homology <LEB01>
 F:335-395/Domain: laminin-type EGF-like homology <LEB02>
 F:398-455/Domain: laminin-type EGF-like homology <LEB03>
 F:458-507/Domain: laminin-type EGF-like homology <LEB04>
 F:510-540/Domain: laminin-type EGF-like homology #status atypical <LEB05>
 F:541-772/Domain: IV <DOM4>
 F:773-1182/Domain: III <DOM3>
 F:773-818/Domain: laminin-type EGF-like homology <LEB06>
 F:821-864/Domain: laminin-type EGF-like homology <LEB07>
 F:867-914/Domain: laminin-type EGF-like homology <LEB08>
 F:917-973/Domain: laminin-type EGF-like homology <LEB09>

F:976-1025/Domain: laminin-type EGF-like homology <LE10>
 F:1028-1081/Domain: laminin-type EGF-like homology <LE11>
 F:1028-1129/Domain: laminin-type EGF-like homology <LE12>
 F:1133-1176/Domain: laminin-type EGF-like homology <LE13>
 F:1183-1197/Domain: II <DOM2>
 F:1183-1197/Region: heptad repeats
 F:1398-1430/Domain: alpha <ALP>
 F:1431-1786/Region: heptad repeats
 F:1431-1786/Domain: I <DOM1>
 F:122/Modified site: pyroglutamate carboxylic acid (Gln) (in mature form) #status predicted
 F:30-35/Disulfide bonds: #status predicted
 F:120,356,519,677,1041,1195,1279,1336,1343,1487,1533,1542,1643/Binding site: carbohydrate
 F:1179,1182,1785/Disulfide bonds: interchain #status predicted

Query Match 45.8%; Score 51; DB 2; Length 133;
 Best Local Similarity 52.9%; Pred. No. 6; Length 133;
 Matches 9; Conservative 2; Mismatches 9; Indels 0; Gaps 0;

OY 1 CECRPKDKRTKPEKCDK 17
 DB 976 CQCHNIDTTDPACDK 992

RESULT 14

JC4680
 vascular endothelial growth factor-related factor 167 precursor - mouse

N:Alternate names: VRF 167 protein
 C:Species: Mus musculus (house mouse)

C>Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999

C:Accession: JC4680

R:Tomson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Nordenskjöld, M.; Weber, G.;

Biochem. Biophys. Res. Commun. 220, 922-928, 1996

A:Title: Characterization of the murine VEGF-related factor gene.

A:Reference number: JC4679; MUID:96183052; PMID:8607868

A:Accession: JC4680

A:Molecule type: mRNA

A:Residues: 1-188 <TOM>

A:Cross-references: GB:U43837; NID:G131433; PIDN:AC5253.1; PID:G1314336

C:Comment: This factor is a mitogen, that is selective for endothelial cells, and belongs

to endothelial growth factors 167 and VEGF 186.

C:Genetics:

A:Gene: VRF

A:Map position: 19

A:Introns: 137/2

F:1-21/Domain: signal sequence #status predicted <SIG>

F:22-188/Product: vascular endothelial growth factor-related factor #status predicted <W

Query Match 43.8%; Score 52.5; DB 2; Length 188;

Best Local Similarity 57.9%; Pred. No. 5.6;

Matches 11; Conservative 1; Mismatches 6; Indels 1; Gaps 1;

OY 1 CECRPKDKRTKPEKCDK 19

DB 122 CECRPK-KESAVKPDSPR 139

RESULT 15

B49530

vascular endothelial growth factor homolog A2R, 14.7K - Orf virus

C:Species: Orf virus

C>Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 08-Oct-1999

C:Accession: B49530

R:Lytle, D.J.; Frazer, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, A.J.

J. Virol. 68, 84-92, 1994

A:Title: Homologs of vascular endothelial growth factor are encoded by the poxvirus orf

A:Reference number: A49530; MUID:94076465; PMID:8254780

A:Contents: NZ2

A:Accession: B49530

A:Status: preliminary

A:Molecule type: DNA

A:Residues: 1-133 <LYT>

A:Cross-references: GB:S67520; NID:G456897; PIDN:AAB29220.1; PID:G456899

A>Note: sequence inconsistent with nucleotide translation

A>Note: sequence extracted from NCBI backbone (NCBIN:141420, NCBI:141425)

Query Match 42.5%; Score 51; DB 2; Length 133;

Best Local Similarity 45.0%; Pred. No. 6.7;

Matches 9; Conservative 2; Mismatches 9; Indels 0; Gaps 0;

OY 1 CECRPKDKRTKPEKCDK 20
 DB 112 CDCRPRTTTPPTTRPPR 131

Search completed: January 30, 2004, 11:46:14
 Job time : 8.61539 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:48 ; Search time 4.61538 Seconds
(without alignments)

203.762 Million cell updates/sec

Title: US-09-266-543-4
Perfect score: 120
Sequence: 1 CECRPKKDKRTPEKCDKPRR 20

Scoring table: BLOSUM62
Gapop. 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	101	84.2	146	VEGA_SHEEP	P50412 ovine aries
2	83	69.2	214	VEGA_MOUSE	Q00731 mus musculus
3	83	69.2	214	VEGA_RAT	P16612 rattus norv
4	76	63.3	190	VEGA_MESAU	O99961 mesocricetu
5	69	57.5	190	VEGA_PIG	P43151 sus scrofa
6	67	55.8	214	VEGA_CANPA	O9mrv3 canis famli
7	67	55.8	232	VEGA_HUMAN	P15692 homo sapien
8	66	55.0	190	VEGA_BOVIN	P15691 bos taurus
9	66	55.0	190	VEGA_HORSE	O9gkr0 equus cabal
10	62	51.7	164	VEGA_CAVPO	P26617 cavia porce
11	57	47.5	463	ODO2_YEAST	P19262 saccharomyc
12	55.5	46.2	216	VEGA_CHICK	P52882 gallus gall
13	55	45.8	207	VEGB_BOVIN	O9x849 bos taurus
14	55	45.8	1786	LMB1_HUMAN	P07942 homo sapien
15	55	45.8	1786	LMB1_MOUSE	P02469 mus musculu
16	53	44.2	207	VEGB_HUMAN	P49765 homo sapien
17	51	42.5	133	VEGB_ORF2	P52884 orf virus (
18	51	42.5	207	VEGB_MOUSE	P49766 mus musculu
19	51	42.5	235	BAR6_CHITE	P08726 chironomus
20	49.5	41.2	1700	BAR3_CHITE	Q03376 chironomus
21	49	40.8	655	YS44_CABEL	O09372 caenorhabdi
22	48.5	40.4	604	NET1_HUMAN	O95631 homo sapien
23	48.5	40.4	604	NET1_MOUSE	O09118 mus musculu
24	48	40.0	271	RLS_DUNSA	O02608 dunallella
25	47	39.2	135	VEGB_RAT	O35485 rattus norv
26	47	39.2	158	PLGF_MOUSE	O63434 rattus norv
27	47	39.2	158	PLGF_RAT	O24023 rattus norv
28	47	39.2	1038	SOG_DROME	O24023 drosophila
29	47	39.2	2616	NDL_DROME	P98155 drosophila
30	47	39.2	3951	VEG1_LBVB	P27920 avian infec
31	46	38.3	211	RIN4_ARATH	O98955 arabidopsis
32	45.5	37.9	248	SDGF_MOUSE	P31955 mus musculu
33	45.5	37.9	581	NET2_CHICK	O90923 gallus gall

ALIGNMENTS

RESULT 1	ID	VEGA_SHEEP	STANDARD	PRT	146 AA.
AC	P50412	VEGA_SHEEP	STANDARD	PRT	146 AA.
DT	01-OCT-1996	(Rel. 34, Created)			
DT	01-OCT-1996	(Rel. 34, Last sequence update)			
DT	28-FEB-2003	(Rel. 41, Last annotation update)			
DE	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).				
DE	VEGF OR VEGFA.				
OS	Ovis aries (Sheep).				
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;				
OC	Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;				
OC	Bovidae; Caprinae; Ovis.				
OX	NCBI_TaxID=9940;				
RN	[1]				
RP	SEQUENCE FROM N.A.				
RC	TISSUE=Kidney;				
RX	MEDLINE=97117958; PubMed=8958842;				
RA	Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K., Reynolds L.P., Moor R.M.;				
RT	"Characterization and expression of vascular endothelial growth factor (VEGF) in the ovine corpus luteum.";				
RL	J. Reprod. Fert. 108:157-165 (1996).				
CC	-!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).				
CC	-!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PLGF (By similarity).				
CC	-!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.				
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DR	EMBL; X89506; CA61677.1; -				
DR	PIR; S57956; S57956.				
DR	HSSP; P15692; 1VVP.				
DR	InterPro; IPR00072; PD_growth_factor.				
DR	Pfam; PF00341; PDGF_1.				
DR	ProDom; PD001629; PD_growth_factor; 1.				
DR	SMART; SM00141; PDGF_1.				
DR	PROSITE; PS00249; PDGF_1; 1.				
DR	PROSITE; PS00278; PDGF_2; 1.				
KW	Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;				
KW	Heparin-binding; Multigene family.				
FT	SIGNAL	1	26	BY SIMILARITY.	
FT	CHAIN	27	146	VASCULAR ENDOTHELIAL GROWTH FACTOR A.	
FT	DISULFID	51	93	BY SIMILARITY.	

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FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 INTERCHAIN (BY SIMILARITY).
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CAROARD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 146 AA; 17247 MW; 4E792CB57F91760 CRC64;

Query Match 84.2%; Score 101; DB 1; Length 146;
Best Local Similarity 80.0%; Pred. No. 2e-07;
Matches 16; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CECRPRKORTKPEKCDKPRR 20
Db 127 CECRPRKOKAROEKCDKPRR 146

RESULT 2
VEGA MOUSE STANDARD; PRT; 214 AA.
ID VEGA MOUSE STANDARD; PRT; 214 AA.
AC 000731;
DT 01-APR-1993 (Rel. 25, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_Taxid=10090;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM VEGF-1; VEGF-2 AND VEGF-3).
RX MEDLINE=92274860; PubMed=1592003;
RA Breier G., Albrecht U., Sterrer S., Risau W.;
RT "Expression of vascular endothelial growth factor during embryonic angiogenesis and endothelial cell differentiation."
RT Development 114:521-532(1992).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM VEGF-1).
RX MEDLINE=92355593; PubMed=1644816;
RA Clafey K.P., Wilkison W.O., Spiegelman B.M.;
RT "Vascular endothelial growth factor. Regulation by cell differentiation and activated second messenger pathways."
RT J. Biol. Chem. 267:16317-16322(1992).
RN [3]
RP SEQUENCE OF 1-3 FROM N.A.
RX MEDLINE=96216498; PubMed=8632007;
RA Shima D.T., Kuroki M., Deutech U., Ng Y., Adams A.P., D'Amore P.A.;
RT "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional regulatory sequences."
RT regulatory sequences."
RT J. Biol. Chem. 271:3877-3883(1996).
RN [4]
RP FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (by similarity).
RN [5]
RP SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (by similarity).
RN [6]
RP SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3 remains cell-surface associated unless released by heparin.
RN [7]
RP ALTERNATIVE PRODUCTS: Named isoforms=3;
RN [8]
RP Event=Alternative splicing; Named isoforms=3;
RN [9]
RP Name=VEGF-3; Synonyms=VEGF18;
RN [10]
RP IsoId=Q00731-1; Sequence=Displayed;
RN [11]
RP Name=VEGF-1; Synonyms=VEGF164;
RN [12]
RP IsoId=Q00731-2; Sequence=VSP_004626; VSP_004627;
RN [13]
RP Name=VEGF-2; Synonyms=VEGF120;
RN [14]
RP IsoId=Q00731-3; Sequence=VSP_004628;
RN [15]
RP TISSUE SPECIFICITY: In developing embryos, expressed mainly in the choroid plexus, paraventricular neuroepithelium, placenta and

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CC kidney glomeruli. Also found in bronchial epithelium, adrenal gland and in seminiferous tubules of testis. High expression of VEGF continues in kidney glomeruli and choroid plexus in adults.
CC -1- DOMAIN: VEGF-3 contains a basic insert which acts as a cell retention signal.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; S37052; AAB22252.1; -.
DR EMBL; S38083; AAB22253.1; -.
DR EMBL; S38100; AAB22254.1; -.
DR EMBL; M95200; AAA40547.1; -.
DR EMBL; U41383; -. NOT ANNOTATED_CDS.
DR PIR; A44881; A44881.
DR PIR; B44881; B44881.
DR HSSP; P15692; 2VPF.
DR MGD; MGI:103178; Vegfa.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS0278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 214 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 51 93 BY SIMILARITY.
FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CAROARD 100 100 N-LINKED (GLCNAC. . .) (PROBABLE).
FT VARSPLIC 140 140 K-> N (in isoform VEGF-1).
FT VARSPLIC 141 164 /FTid=VSP_004626.
FT VARSPLIC 141 164 Missing (in isoform VEGF-1).
FT VARSPLIC 141 208 Missing (in isoform VEGF-2).
FT VARSPLIC 141 208 Missing (in isoform VEGF-2).
FT CONFLICT 117 118 GE-> ER (in REF. 2).
SQ SEQUENCE 214 AA; 25283 MW; B5540B51B4B6E17 CRC64;

Query Match 69.2%; Score 83; DB 1; Length 214;
Best Local Similarity 100.0%; Pred. No. 9.2e-05;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 CECRPRKORTKPEK 14
Db 127 CECRPRKORTKPEK 140

RESULT 3
VEGA RAT STANDARD; PRT; 214 AA.
ID VEGA RAT STANDARD; PRT; 214 AA.
AC P16612; O9JKY7; O9OXG6; O9OXG7;
DT 01-AUG-1990 (Rel. 15, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_Taxid=10116;
RN [1]

```

RP SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190.
 RX MEDLINE=90207249; PubMed=2320579;
 RA Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A.,
 RA Pallett T.M., Hope D.A., Thomas K.A.;
 RT "Amino acid and cDNA sequences of a vascular endothelial cell mitogen
 RT that is homologous to platelet-derived growth factor.";
 RT Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
 RL [2]
 RN SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND
 RP VEGF-A120).
 RA Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;
 RT "Developmental expression of vascular endothelial growth factor-A
 RT (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat
 RT masseter muscle.";
 RT Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 RN [3]
 RP SEQUENCE OF 27-40.
 RC TISSUE=Glial tumor;
 RX MEDLINE=95221439; PubMed=7706320;
 RA Disalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
 RA Soderman D.D., Pallett T.M., Sullivan K.A., Thomas K.A.;
 RT "Purification and characterization of a naturally occurring vascular
 RT endothelial growth factor/placenta growth factor heterodimer.";
 RT J. Biol. Chem. 270:7717-7723(1995).
 RL [1]
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC heparin/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.
 CC although a significant proportion remains cell-associated, most is
 CC freely secreted. VEGF-A188 is very basic; it is cell-associated
 CC after secretion and is bound avidly by heparin and the
 CC extracellular matrix, although it may be released as a soluble
 CC form by heparin, heparinase or plasmin (By similarity).
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=4;
 CC Comment=Additional isoforms seem to exist;
 CC Name=VEGF-A188;
 CC IsoId=PI6612-1; Sequence=Displayed;
 CC Name=VEGF-A164;
 CC IsoId=PI6612-2; Sequence=VSP_004629, VSP_004630;
 CC Name=VEGF-A144;
 CC IsoId=PI6612-3; Sequence=VSP_004632;
 CC Name=VEGF-A120;
 CC IsoId=PI6612-4; Sequence=VSP_004631;
 CC -1- TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in
 CC particularly in supraoptic and paraventricular nuclei and the
 CC choroid plexus. Also found abundantly in the corpus luteum of the
 CC ovary and in kidney glomeruli.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 CC -----
 CC EMBL; M32167; AAA41211.1; -
 CC EMBL; AF215725; AAF19211.1; -
 CC EMBL; AF215726; AAF19212.1; -
 CC EMBL; AF222779; AAF29558.1; -
 CC HSSP; P15692; 1VPP.
 CC InterPro; IPR000072; PD_growth_factor.
 CC Pfam; PF00341; PDGF, 1.
 CC ProDom; PD001629; PD_growth_factor, 1.
 CC SMART; SM00141; PDGF, 1.

DR PROSITE; PS00249; PDGF 1; 1.
 DR PROSITE; PS0278; PDGF 2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Alternative splicing; Multigene family.
 FT FT
 FT CHAIN 1 26
 FT DISULFID 27 24
 FT DISULFID 51 93
 FT DISULFID 82 127
 FT DISULFID 86 129
 FT DISULFID 76 76
 FT DISULFID 85 85
 FT CARBOHYD 100 100
 FT VARSPLYD 140 140
 FT VARSPLYC 141 164
 FT VARSPLYC 141 208
 FT VARSPLYC 165 208
 FT VARSPLYC 165 208
 FT CONFLICT 101 101
 FT SEQUENCE 214 AA; 25239 MW; 60FBB876F5304946 CRC64;
 SQ
 Query Match 69.2%; Score 83; DB 1; Length 214;
 Best Local Similarity 100.0%; Pred. No. 9.2e-05;
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 CECRPRKQRTKPEK 14
 DB 127 CECRPRKQRTKPEK 140
 ID VEGA_MESAU STANDARD; PRT; 190 AA.
 AC Q99PS1;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Mesocricetus auratus (Golden hamster).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 OC Mesocricetus.
 OX NCBI_TaxId=10036;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=decidua, and Embryo;
 RX MEDLINE=9911285; PubMed=10382276;
 RA Yi X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
 RT "Expression of vascular endothelial growth factor (VEGF) and its
 RT receptors during embryonic implantation in the golden hamster
 RT (Mesocricetus auratus).";
 RT Cell Tissue Res. 296:339-349(1999).
 RL [1]
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (By
 CC similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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 CC -----
 DR EMBL; AF063013; AAK00049.1; -.
 DR HSSP; P15692; 1VGH.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Multigene family.
 FT SIGNAL 1 26 BY SIMILARITY.
 FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 190 AA; 22276 MW; F00C5A6EA79A465F CRC64;
 Query Match 63.3%; Score 76; DB 1; Length 190;
 Best Local Similarity 28.1%; Pred. No. 0.00076;
 Matches 18; Conservative 1; Mismatches 1; Indels 44; Gaps 1;
 QY 1 CECRPKDKRTKPE-----KCD 16
 DB 127 CECRPKDKRTKPE-----KCD 16
 QY 17 KPRR 20
 DB 187 KPRR 190
 RESULT 5
 VEGA_PIG STANDARD; PRT; 190 AA.
 AC P49151; Q9GL52;
 DT 01-FEB-1996 (Rel. 33, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VFP).
 GN VEGF OR VEGFA.
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Suidae;
 OC NCBI_TaxID=9823;
 OX NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Heart;
 RX MEDLINE=95143284; PubMed=7841203;
 RA Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
 RT "Nucleotide sequence and expression of the porcine vascular
 RT endothelial growth factor.";
 RL Biochim. Biophys. Acta 1260:235-238 (1995).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA Lee T., Canty J.M.;
 RT "PCR cloning of porcine cardiac vascular endothelial growth factor
 RT gene.";
 RL Submitted (NOV-2000) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Fit-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (By similarity).

CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (By
 CC similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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 CC entities requires a license agreement (See <http://www.isb-sib.ch/announce/>
 CC or send an email to license@isb-sib.ch).
 CC -----
 DR EMBL; X81380; AAC57143.1; -.
 DR EMBL; AF118502; AAG33064.1; -.
 DR PIR; S52130; S52130.
 DR HSSP; P15692; 1VGH.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Multigene family.
 FT SIGNAL 1 26 POTENTIAL.
 FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
 FT CONFLICT 102 102 T -> A (IN REF. 2).
 SQ SEQUENCE 190 AA; 22368 MW; 04D408BD7913047F CRC64;
 Query Match 57.5%; Score 69; DB 1; Length 190;
 Best Local Similarity 25.0%; Pred. No. 0.0071;
 Matches 16; Conservative 2; Mismatches 2; Indels 44; Gaps 1;
 QY 1 CECRPKDKRTKPE-----KCD 16
 DB 127 CECRPKDKRTKPE-----KCD 16
 QY 17 KPRR 20
 DB 187 KPRR 190
 RESULT 6
 VEGA_CANPA STANDARD; PRT; 214 AA.
 AC Q9MTV3; Q9XSF3; Q9XSF4; Q9XSF5;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VFP).
 GN VEGF OR VEGFA.
 OS Canis familiaris (Dog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 OC NCBI_TaxID=9615;
 OX NCBI_TaxID=9615;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-188).
 RX MEDLINE=2012516; PubMed=10661874;
 RA Schindgeger P., Weighofer W., Suarez S., Kaser-Holz B., Steiner R.,
 RA Ballmer-Hofer K., Jansel R.;
 RT "Vascular endothelial growth factor (VEGF) and its receptors in tumor-
 RT bearing dogs.";
 RL Biol. Chem. 380:1449-1454 (1999).
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).


```

RC TISSUE=Heart;
RA Jingling L., Roque R.S.;
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event-Alternative splicing; Named isoforms=3;
CC Comment=Additional isoforms seem to exist;
CC Name=VEGF-182;
CC IsoId=Q9MYV3-1; Sequence=Displayed;
CC Name=VEGF-182;
CC IsoId=Q9MYV3-2; Sequence=VSP_004617;
CC Name=VEGF-164;
CC IsoId=Q9MYV3-3; Sequence=VSP_004615, VSP_004616;
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC or send an email to license@sib-sib.ch).
CC -----
DR EMBL, AJ133758; CAB83426.1; -
DR EMBL, AF133250; AAD28684.1; -
DR EMBL, AF133249; AAD29683.1; -
DR EMBL, AF133248; AAD29682.1; -
DR HSSP; P15692; 1VGH.
DR InterPro; IPRO00072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS02278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 214
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
FT VARSPPLIC 140 140
FT FT 141 164
FT FT 159 164
FT VARSPPLIC 159 164
FT FT 143 143
FT CONFLICT 161 161
FT CONFLICT 161 161
SQ SEQUENCE 214 AA; 25175 MW; OAC980A158C4427 CRC64;
Query Match 55.8%; Score 67; DB 1; Length 214;
Best Local Similarity 78.6%;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
QY 1 CECRPKXKRTKPEK 14
DB 127 CECRPKXKRAOREK 140

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RESULT 7
ID VEGA HUMAN STANDARD; PRT; 232 AA.
AC P15632; O60720; O75875; Q16889; Q96NM5; Q9H1W8; Q9H1W9; Q9UH58;
AC Q9UT23;
DT 01-APR-1990 (Rel. 14, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxId=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM VEGF189 AND VEGF165).
RX MEDLINE=90069608; PubMed=2479986;
RT Leung D.W., Cachianes G., Kiang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic
RT mitogen.";
RL Science 246:1306-1309 (1989).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM VEGF189), AND PARTIAL SEQUENCE.
RX MEDLINE=90069609; PubMed=2479987;
RT Keck P.J., Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J.,
RT Connolly D.T.;
RT "Vascular permeability factor, an endothelial cell mitogen related to
RT PDGF.";
RL Science 246:1309-1312 (1989).
RN [3]
RP SEQUENCE FROM N.A. (ISOFORM VEGF189).
RX MEDLINE=91268072; PubMed=1711045;
RT Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,
RT Fiddes J.C., Abraham J.A.;
RT "The human gene for vascular endothelial growth factor. Multiple
RT protein forms are encoded through alternative exon splicing.";
RL J. Biol. Chem. 266:11947-11954 (1991).
RN [4]
RP SEQUENCE FROM N.A. (ISOFORM VEGF206).
RX MEDLINE=92168017; PubMed=1791831;
RT Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;
RT "The vascular endothelial growth factor family: identification of a
RT fourth molecular species and characterization of alternative splicing
RT of RNA.";
RL Mol. Endocrinol. 5:1806-1814 (1991).
RN [5]
RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
RX MEDLINE=92231879; PubMed=1567395;
RT Weindel K., Marne D., Weich H.A.;
RT "AIDS-associated Kaposi's sarcoma cells in culture express vascular
RT endothelial growth factor.";
RL Biochem. Biophys. Res. Commun. 183:1167-1174 (1992).
RN [6]
RP SEQUENCE FROM N.A. (ISOFORM VEGF145).
RX MEDLINE=97207275; PubMed=9054410;
RT Poltorak Z., Cohen T., Sivan R., Kandellis Y., Spira G., Vlodavsky I.,
RT Keshet E., Neufeld G.;
RT "VEGF145, a secreted vascular endothelial growth factor isoform that
RT binds to extracellular matrix.";
RL J. Biol. Chem. 272:7151-7158 (1997).
RN [7]
RP SEQUENCE FROM N.A. (ISOFORM VEGF183).
RC TISSUE=Kidney;
RX MEDLINE=9906474; PubMed=9878851;
RA Lei J., Jiang A., Pei D.;
RT "Identification and characterization of a new splicing variant of
RT vascular endothelial growth factor: VEGF183.";
RL Biochim. Biophys. Acta 1443:400-406 (1998).
RN [8]
RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
RC TISSUE=Breast;
RX MEDLINE=98119755; PubMed=9450968;

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RA Clafey K.P., Shih S.-C., Mullen A., Dziennis S., Cusick J.L.,
 RA Abrams K.R., Lee S.W., Detmar M.,
 RT "Identification of a human VEGF/VEGF-3' untranslated region mediating
 RT hypoxia-induced mRNA stability.";
 RL Mol. Biol. Cell 9:469-481(1998).
 (9)
 RP SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
 RC TISSUE=Retina;
 RX MEDLINE=99165303; PubMed=10067980;
 RA Jingjing L., Xue Y., Agarwal N., Roque R.S.,
 RT "Human Muller cells express VEGF183, a novel spliced variant of
 RT vascular endothelial growth factor.";
 RL Invest. Ophthalmol. Vis. Sci. 40:752-759(1999).
 (110)
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RC TISSUE=Hemangioidenothelioma.
 RA Murata H., Fukushima J., Hattori S., Okuda K., Yanagi H.,
 RT "Human CDNA for the vascular endothelial growth factor isoform
 RT VEGF165.";
 RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.
 (111)
 RP SEQUENCE FROM N.A. (ISOFORM VEGF148).
 RC TISSUE=renal glomerulus;
 RX MEDLINE=99394945; PubMed=10464055;
 RA Whittle C.J., Gillespie K.M., Harrison R., Mathieson P.W.,
 RA Harper S.J.,
 RT "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA
 RT and receptor mRNA expression in human glomeruli, and the
 RT identification of VEGF148 mRNA, a novel truncated splice variant.";
 RL Clin. Sci. 97:303-312(1999).
 (112)
 RP SEQUENCE FROM N.A. (ISOFORM VEGF121).
 RA Sato J.D., Whitney R.G.,
 RT Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 (113)
 RP SEQUENCE FROM N.A.
 RA Williams S.,
 RL Submitted (DEC-2000) to the EMBL/GenBank/DBJ databases.
 (114)
 RP SEQUENCE OF 23-233 FROM N.A. (VEGF165).
 RA Rieder M.J., Armet T.Z., Carrington D.P., Chung M.-W., Lee K.L.,
 RA Poel C.L., Toch E.J., Yi Q., Nickerson D.A.,
 RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
 (115)
 RP PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
 RX MEDLINE=90062112; PubMed=2584205;
 RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R.,
 RA Siegel N., Haymore B.L., Letmugher R., Feder J.,
 RT "Human vascular permeability factor. Isolation from U937 cells.";
 RL J. Biol. Chem. 264:20017-20024(1989).
 (116)
 RP SEQUENCE OF 27-41.
 RX MEDLINE=93145946; PubMed=7678805;
 RA Fiebach B.L., Jaeger B., Schoellmann C., Weindel K., Wilting J.,
 RA Kochs G., Marne D., Hug H., Weich H.A.,
 RT "Synthesis and assembly of functionally active human vascular
 RT endothelial growth factor homodimers in insect cells.";
 RL Eur. J. Biochem. 211:19-26(1993).
 (117)
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
 RX MEDLINE=97352774; PubMed=9207067;
 RA Muller Y.A., Li B., Christinger H.W., Wells J.A., Cunningham B.C.,
 RA de Vos A.M.,
 RT "Vascular endothelial growth factor: crystal structure and functional
 RT mapping of the kinase domain receptor binding site.";
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
 (118)
 RP X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
 RX MEDLINE=98035455; PubMed=9351807;
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.,
 RT "The crystal structure of vascular endothelial growth factor (VEGF)
 RT refined to 1.93-A resolution: multiple copy flexibility and receptor

RT binding.";
 RL Structure 5:1325-1338(1997).
 (119)
 RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RX MEDLINE=99119204; PubMed=9922142;
 RA Wiemann C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.,
 RT "Crystal structure of the complex between VEGF and a receptor-blocking
 RT peptide.";
 RL Biochemistry 37:17765-17772(1998).
 (120)
 RP STRUCTURE BY NMR OF 34-135.
 RX MEDLINE=97477915; PubMed=9336848;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.,
 RT "1H, 13C, and 15N backbone assignment and secondary structure of the
 RT receptor-binding domain of vascular endothelial growth factor.";
 RL Protein Sci. 6:2250-2260(1997).
 (121)
 RP STRUCTURE BY NMR OF 137-215.
 RX MEDLINE=98298440; PubMed=9634701;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.,
 RT "Solution structure of the heparin-binding domain of vascular
 RT endothelial growth factor.";
 RL Structure 6:637-648(1998).
 (122)
 RP FUNCTION.
 RX MEDLINE=21320570; PubMed=11427521;
 RA Murphy J.F., Fitzgerald D.J.,
 RT "Vascular endothelial growth factor induces cyclooxygenase-dependent
 RT proliferation of endothelial cells via the VEGF-2 receptor.";
 RL FASEB J. 15:1667-1669(2001).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin. Neupoptin-1 binds isoforms VEGF-165 and VEGF-145.
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (by similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF121 is acidic and freely secreted.
 CC VEGF165 is more basic, has heparin-binding properties and,
 CC although a significant proportion remains cell-associated, most is
 CC freely secreted. VEGF189 is very basic; it is cell-associated
 CC after secretion and is bound avidly by heparin and the
 CC extracellular matrix, although it may be released as a soluble
 CC form by heparin, heparinase or plasmin.
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=7;
 CC Comment=Experimental confirmation may be lacking for some
 CC isoforms;
 CC Name=VEGF206;
 CC IsoId=P15692-1; Sequence=Displayed;
 CC Name=VEGF189;
 CC IsoId=P15692-2; Sequence=VSP_004622;
 CC
 CC Query Match 55.8%; Score 67; DB 1; Length 232;
 CC Best Local Similarity 78.6%; Pred. No. 0.016;
 CC Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 CC
 CC QY 1 CECRPPKDKRTKPEK 14
 CC ||||| : ||
 CC Db 128 CECRPPKDKRAQEK 141
 CC
 CC RESULT 8
 CC VEGA BOVIN STANDARD; PRT; 190 AA.
 CC AC P15691.
 CC DT 01-APR-1990 (Rel. 14, Created)
 CC DT 01-APR-1990 (Rel. 14, Last sequence update)
 CC DT 28-FEB-2003 (Rel. 41, Last annotation update)

```

DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
CN VEGF OR VEGFA.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RN SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
RP MEDLINE=90069608; PubMed=2479986;
RX Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;
RA "Vascular endothelial growth factor is a secreted angiogenic
RT mitogen."
RL Science 246:1306-1309(1989).
RN [2]
RN SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND BETA).
RP MEDLINE=90121225; PubMed=2610687;
RX Tiecher E., Gospodarowicz D., Mitchell R., Silva M., Schilling J.,
RA Lau K., Clisp T., Fiddes J.C., Abraham J.A.;
RT "Vascular endothelial growth factor: a new member of the platelet-
RT derived growth factor gene family."
RL Biochem. Biophys. Res. Commun. 165:1198-1206(1989).
RN [3]
RN SEQUENCE OF 27-31.
RP MEDLINE=89286596; PubMed=2739525;
RX Ferrara N., Henzel W.J.;
RT "Plutary follicular cells secrete a novel heparin-binding growth
RT factor specific for vascular endothelial cells."
RL Biochem. Biophys. Res. Commun. 161:851-858(1989).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=Alpha;
CC IsoId=P15691-1; Sequence=Displayed;
CC Name=Beta;
CC IsoId=P15691-2; Sequence=VSP 004613, VSP 004614;
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL: M32976; AAA30502.1; -.
DR EMBL: M31836; AAA30804.1; -.
DR EMBL: M3750; AAA30805.1; -.
DR PIR: B40080; B40080.
DR HSSP: P15692; 1VGH.
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF_1.
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART: SM00141; PDGF_1.
DR PROSITE: PS00249; PDGF_1; 1.
DR PROSITE: PS02078; PDGF_2; 1.
DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 51 93 BY SIMILARITY.

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FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT VASAPLIC 139 183 Missing (in isoform Beta).
FT VASAPLIC 184 184 /FtId=VSP_004613.
FT VASAPLIC 184 184 R -> K (in isoform Beta).
FT VASAPLIC 184 184 /FtId=VSP_004614.
SQ SEQUENCE 190 AA; 22310 MW; EDBF903E46E24789 CRC64;
Query Match 55.0%; Score 66; DB 1; Length 190;
Best Local Similarity 23.4%; Pred. No. 0.018;
Matches 15; Conservative 3; Mismatches 2; Indels 44; Gaps 1;
QY 1 CECRPKRDRTKPE-----KCD 16
Db 127 CECRPKDKARQENPCGSGERKRLVQDPQTCCKSKNTDRCARQGLEINERTQCD 186
QY 17 KPRR 20
Db 187 KPRR 190
RESULT 9
VEGA_HORSE STANDARD; PRT; 190 AA.
ID VEGA_HORSE
AC OQGRK0;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RP SEQUENCE FROM N.A.
RA Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S.,
RA Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.,
RT "Cloning of cDNA and high-level expression of equine vascular
RT endothelial growth factor (VEGF).";
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth. Induces endothelial proliferation and vascular
CC permeability (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC
CC -----
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CC or send an email to license@ebi.ac.uk).
CC
CC EMBL; AB053350; BAB08990.1; -.
DR HSSP; P15692; 1VGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF.1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF.1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS0278; PDGF_2; 1.
DR MitoGen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Multigene Family.

```

```

FT SIGNAL 1 26 POTENTIAL.
FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 51 93 BY SIMILARITY.
FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CAROHND 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 190 AA; 22312 MW; 8759E1614395F87 CRC64;

Query Match 55.0%; Score 66; DB 1; Length 190;
Best Local Similarity 23.4%; Pred. No. 0.018;
Matches 15; Conservative 3; Mismatches 2; Indels 44; Gaps 1;

QY 1 CECRPRKQRTKPE-----KCD 16
DB 127 CECRPRKQKARQENPCGSCERRKHLFVQDPQTCCKSCNNTDSCKARQLEINERTCRCD 186
QY 17 KPRR 20
DB 187 KPRR 190

RESULT 10
VEGA_CAVPO STANDARD; PRT; 164 AA.
ID VEGA_CAVPO
AC P26617;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability
DE factor) (VEGF).
GN VEGF OR VEGFA.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystriocognathi; Cavidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Bile duct;
RA Berse B.;
RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth. Induces endothelial proliferation and vascular
CC permeability (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC
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CC
CC EMBL; M84230; AAA37057.1; -.
CC HSSP; P15692; 1VGH.
CC InterPro; IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF; 1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF; 1.
CC PROSITE; PS00249; PDGF_1; 1.
CC PROSITE; PS50278; PDGF_2; 1.
CC Mitogen Angiogenesis; Growth factor; Glycoprotein.
KM DISULFID 25 67 BY SIMILARITY.
FT DISULFID 56 101 BY SIMILARITY.
FT DISULFID 60 103 BY SIMILARITY.
FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).

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FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).
FT CAROHND 74 74 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DCA4 CRC64;

Query Match 51.7%; Score 62; DB 1; Length 164;
Best Local Similarity 21.9%; Pred. No. 0.057;
Matches 14; Conservative 4; Mismatches 2; Indels 44; Gaps 1;

QY 1 CECRPRKQRTKPE-----KCD 16
DB 101 CECRPRKQKARQENPCGSCERRKHLFVQDPQTCCKSCNNTDSCKARQLEINERTCRCD 160
QY 17 KPRR 20
DB 161 KPRR 164

RESULT 11
ODO2_YEAST STANDARD; PRT; 463 AA.
ID ODO2_YEAST
AC P19762;
DT 01-NOV-1990 (Rel. 16, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Dihydroliipoamide succinyltransferase component of 2-oxoglutarate
DE dehydrogenase complex, mitochondrial precursor (EC 2.3.1.61) (E2).
GN KG2 OR YDR148C OR YD8358.05C.
OS Saccharomyces cerevisiae (Baker's yeast).
OC Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
OC Saccharomycetales; Saccharomycetaceae; Saccharomycetes.
OX NCBI_TaxID=4932;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE=90318388; PubMed=2115121;
RA Repetto B., Izagoloff A.;
RT "Structure and regulation of KG2, the structural gene for yeast
RT dihydroliipoyl transsuccinylase."
RL Mol. Cell. Biol. 10:4221-4232(1990).
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=S288c / FY1678;
RX PubMed=9169867;
RA Jacq C., Alt-Moerbe J., Andre B., Arnold W., Bahr A., Ballesta J.P.G.,
RA Barques M., Baron L., Becker A., Bileau N., Bloecher H., Bignon C.,
RA Boskovic J., Brandt P., Bruckner M., Buitrago M.J., Coster F.,
RA Delaveau T., del Rey F., Dujon B., Eide L.G., Garcia-Cantalejo J.M.,
RA Goffeau A., Gomez-Perez A., Granotier C., Hanemann V., Hannekin T.,
RA Hohlbein J.D., Jaeger W., Jimenez A., Jonnaux J.-L., Kraemer S.,
RA Kuester H., Laamanen P., Legros Y., Louis E.J., Moeller-Rieker S.,
RA Monnet A., Moro M., Mueller-Auer S., Nussbaumer B., Paricio N.,
RA Paulin L., Perea J., Perez-Alonso M., Perez-Ortin J.E., Pohl T.M.,
RA Prydz H., Purnelle B., Raemussen S.W., Remacha M., Reyneta J.L.,
RA Rieger M., Salom D., Saluz H.P., Salz J.E., Saren A.-M., Schaefer M.,
RA Scherfe M., Schmidt E.R., Schneider C., Scholler P., Schwarz S.,
RA Uristeaza L.A., Verhasselt P., Vissers S., Voet M., Volckaert G.,
RA Wagner G., Wambut R., Wedler E., Wedler H., Weigl S., Harris D.E.,
RA Bowman S., Brown D., Churcher C.M., Connor R., Dedman K., Gentles S.,
RA Hamlin N., Hunt S., Jones U., McDonald S., Murphy L., Niblett D.,
RA Odell C., Oliver K., Rajandream M.A., Richards C., Shore L.,
RA Walsh S.V., Barrett B.G., Dietrich F.S., Milligan J.T., Allen E.,
RA Araujo R., Aviles E., Berne A., Carpenter J., Chen E., Cherry J.M.,
RA Chung E., Duncan M., Hunnicke-Smith S., Hyman R.W., Komp C.,
RA Lahekari D., Lew H., Lin D., Mosedale D., Nakahara K., Namah A.,
RA Oetner P., Oh C., Petel F.X., Roberts D., Schramm S., Schroeder M.,
RA Shogren T., Shroff N., Winant A., Yelton M.A., Botstein D.,
RA Davis R.W., Johnston M., Andrews S., Brinkman R., Cooper J., Ding H.,
RA Du Z., Favello A., Fulton L., Gattung S., Greco T., Hallsworth K.,
RA Hawking J., Hillier L., Jier M., Johnson D., Johnston L., Kirsten J.,
RA Kucba T., Langston Y., Latreille P., Le T., Mardis E., Meneses S.,
RA Miller N., Nhan M., Pauley A., Peluso D., Rifkin L., Riles L.,
RA Talch A., Trevaaskis E., Vignati D., Wilcox L., Woldman P., Vaudin M.,
RA Wilson R., Waterston R., Albermann K., Han J., Heumann K., Kleine K.,
RA Mewes H.-W., Zollner A., Zaccaria P.;

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DR HSPB; P15692; 1VGH.
DR Interpro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF_1.
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
DR MitoGen: Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 216
FT DISULFID 52 94
FT DISULFID 83 128
FT DISULFID 87 130
FT DISULFID 77 77
FT DISULFID 86 86
FT CAROXYD 101 101
FT VARSPLIC 142 142
FT VARSPLIC 143 166
FT VARSPLIC 166 166
FT VARSPLIC 167 210
FT VARSPLIC 167 210
FT SEQUENCE 216 AA; 25203 MW; 82B669C2F6FC6DA7 CRC64;

Query Match 46.2%; Score 55.5; DB 1; Length 216;
Best Local Similarity 61.1%; Pred. No. 0.6;
Matches 11; Conservative 2; Mismatches 4; Indels 1; Gaps 1;

QY 1 CECRPKCD-RTKPKCDK 17
Db 128 CDCRPKDVKNCKKSK 145

RESULT 13
VEGB_BOVIN STANDARD; PRT; 207 AA.
AC Q9X549; Q9GLX2; Q9X548;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor B precursor (VEGF-B) (VEGF related
factor) (VRF).
OS BOVINE OR VRF.
OC Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Heart;
RA Liu X., Yonekura H., Yamagishi S., Yamamoto Y., Yamamoto H.;
RT "Structure and expression of bovine VEGF family.";
RU Submitted (May-1997) to the EMBL/Genbank/DBJ databases.
RN [2]
RP SEQUENCE OF 38-104 FROM N.A.
RC TISSUE=Heart;
RA Mandricia S.J., Pepper M.S.;
RT Submitted (Oct-1998) to the EMBL/Genbank/DBJ databases.
RN [3]
RP FUNCTION: Growth factor for endothelial cells. VEGF-B167 binds
heparin and neuropilin-1 whereas the binding to neuropilin-1 of
VEGF-B186 is regulated by proteolysis (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Can also form heterodimer
with vegf (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
to the extracellular matrix unless released by heparin (By
similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing: Named isoforms=2;
CC Comment=Additional isoforms seem to exist;

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CC Name=VEGF-B186;
CC IsoId=Q9X549-1; Sequence=Displayed;
CC Name=VEGF-B167;
CC IsoId=Q9X549-2; Sequence=VSP_004637, VSP_004638;
CC -1- PTM: VEGF-B186 is O-glycosylated (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; AB004274; BAA77686.1; -
DR EMBL; AB004273; BAA77685.1; -
DR EMBL; AF099134; AAG29746.1; -
DR HSPB; P15692; 1VGP.
DR Interpro: IPR002400; GF_cycknot.
DR Interpro: IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
DR MitoGen; Growth factor; Glycoprotein; Signal; Heparin-binding;
KW Alternative splicing; Multigene family.
FT SIGNAL 1 21
FT CHAIN 22 207
FT DISULFID 47 89
FT DISULFID 78 122
FT DISULFID 82 124
FT DISULFID 72 72
FT DISULFID 81 81
FT VARSPLIC 137 188
FT VARSPLIC 189 207
FT VARSPLIC 189 207
FT SEQUENCE 207 AA; 21655 MW; 646C82D1B81782 CRC64;

Query Match 45.8%; Score 55; DB 1; Length 207;
Best Local Similarity 50.0%; Pred. No. 0.67;
Matches 10; Conservative 2; Mismatches 6; Indels 2; Gaps 1;

QY 1 CECRPKCD-RTKPKCDK 18
Db 122 CDCRPKKESAVKPDRASTP 141

RESULT 14
LMB1_HUMAN STANDARD; PRT; 1786 AA.
ID LMB1_HUMAN
AC P07942;
DT 01-AUG-1988 (Rel. 08, Created)
DT 01-AUG-1988 (Rel. 08, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Laminin beta-1 chain precursor (Laminin B1 chain).
RN LMB1.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RC MEDLINE=90368768; PubMed=1975589;
RX Vuolteenaho R., Chow L.T., Tryggvason K.;
RA "Structure of the human laminin B1 chain gene.";
RT J. Biol. Chem. 265:15611-15616(1990).

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RN SEQUENCE FROM N.A.
 RP MEDLINE=87280097; PubMed=3611077;
 RX Plikaratien T., Eddy R., Fukushima Y., Byers M., Shows T.,
 RA Pihlajaniemi T., Saraste M., Pihlajaniemi K.,
 RT "Human laminin B1 chain. A multidomain protein with gene (LAMB1)
 RT locus in the q22 region of chromosome 7.";
 RL J. Biol. Chem. 262:10454-10462(1987).
 RN [3]
 RP SEQUENCE OF 1276-1709 FROM N.A.
 RX MEDLINE=88021029; PubMed=361559;
 RA Jaye M., Modl W.S., Ricca G.A., Mudd R., Chiu I.M., O'Brien S.J.,
 RA Drohan W.N.:
 RT "Isolation of a cDNA clone for the human laminin-B1 chain and its
 RT gene localization.";
 RL Am. J. Hum. Genet. 41:605-615(1987).
 CC -1- FUNCTION: Binding to cells via a high affinity receptor, laminin
 CC is thought to mediate the attachment, migration, and organization
 CC of cells into tissues during embryonic development by interacting
 CC with other extracellular matrix components.
 CC -1- SUBUNIT: Laminin is a complex glycoprotein, consisting of three
 CC different polypeptide chains (alpha, beta, gamma), which are bound
 CC to each other by disulfide bonds into a cross-shaped molecule
 CC comprising one long and three short arms with globules at each
 CC end.
 CC THE BETA-1 CHAIN IS A SUBUNIT OF LAMININ-1 (EHS LAMININ), LAMININ-
 CC 2 (MEROSIN), AND LAMININ-6 (K-LAMININ).
 CC -1- SUBCELLULAR LOCATION: Extracellular.
 CC -1- TISSUE SPECIFICITY: FOUND IN THE BASEMENT MEMBRANES (MAJOR
 CC COMPONENT).
 CC -1- DOMAIN: THE ALPHA-HELICAL DOMAINS I AND II ARE THOUGHT TO INTERACT
 CC WITH OTHER LAMININ CHAINS TO FORM A COILED COIL STRUCTURE.
 CC -1- DOMAIN: DOMAINS VI AND IV ARE GLOBULAR.
 CC -1- SIMILARITY: Contains 1 laminin N-terminal domain.
 CC -1- SIMILARITY: Contains 13 laminin EGF-like domains.
 CC -1- SIMILARITY: Contains 1 laminin IV domain.
 CC -----
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 CC -----
 DR EMBL; M61951; AAA59486.1; -;
 DR EMBL; M58147; AAA59486.1; JOINED.
 DR EMBL; M61917; AAA59486.1; JOINED.
 DR EMBL; M61918; AAA59486.1; JOINED.
 DR EMBL; M61921; AAA59486.1; JOINED.
 DR EMBL; M61922; AAA59486.1; JOINED.
 DR EMBL; M61923; AAA59486.1; JOINED.
 DR EMBL; M61924; AAA59486.1; JOINED.
 DR EMBL; M61925; AAA59486.1; JOINED.
 DR EMBL; M61926; AAA59486.1; JOINED.
 DR EMBL; M61927; AAA59486.1; JOINED.
 DR EMBL; M61928; AAA59486.1; JOINED.
 DR EMBL; M61929; AAA59486.1; JOINED.
 DR EMBL; M61930; AAA59486.1; JOINED.
 DR EMBL; M61931; AAA59486.1; JOINED.
 DR EMBL; M61932; AAA59486.1; JOINED.
 DR EMBL; M61933; AAA59486.1; JOINED.
 DR EMBL; M61934; AAA59486.1; JOINED.
 DR EMBL; M61935; AAA59486.1; JOINED.
 DR EMBL; M61936; AAA59486.1; JOINED.
 DR EMBL; M61938; AAA59486.1; JOINED.
 DR EMBL; M61939; AAA59486.1; JOINED.
 DR EMBL; M61940; AAA59486.1; JOINED.
 DR EMBL; M61941; AAA59486.1; JOINED.
 DR EMBL; M61942; AAA59486.1; JOINED.
 DR EMBL; M61943; AAA59486.1; JOINED.
 DR EMBL; M61944; AAA59486.1; JOINED.
 DR EMBL; M61945; AAA59486.1; JOINED.

DR	EMBL	M61946	AAAS9486.1	JOINED	
DR	EMBL	M61947	AAAS9486.1	JOINED	
DR	EMBL	M61948	AAAS9486.1	JOINED	
DR	EMBL	M61949	AAAS9486.1	JOINED	
DR	EMBL	M61950	AAAS9486.1	JOINED	
DR	EMBL	M55370	AAAS9485.1	-	
DR	EMBL	M55378	AAAS9485.1	JOINED	
DR	EMBL	M55365	AAAS9485.1	JOINED	
DR	EMBL	M55371	AAAS9485.1	JOINED	
DR	EMBL	M55372	AAAS9485.1	JOINED	
DR	EMBL	M55373	AAAS9485.1	JOINED	
DR	EMBL	M55375	AAAS9485.1	JOINED	
DR	EMBL	M55376	AAAS9485.1	JOINED	
DR	EMBL	M55344	AAAS9485.1	JOINED	
DR	EMBL	M55345	AAAS9485.1	JOINED	
DR	EMBL	M55346	AAAS9485.1	JOINED	
DR	EMBL	M55347	AAAS9485.1	JOINED	
DR	EMBL	M55348	AAAS9485.1	JOINED	
DR	EMBL	M55349	AAAS9485.1	JOINED	
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DR	EMBL	M55351	AAAS9485.1	JOINED	
DR	EMBL	M55352	AAAS9485.1	JOINED	
DR	EMBL	M55353	AAAS9485.1	JOINED	
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DR	EMBL	M55355	AAAS9485.1	JOINED	
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DR	EMBL	M55357	AAAS9485.1	JOINED	
DR	EMBL	M55358	AAAS9485.1	JOINED	
DR	EMBL	M55359	AAAS9485.1	JOINED	
DR	EMBL	M55360	AAAS9485.1	JOINED	
DR	EMBL	M55361	AAAS9485.1	JOINED	
DR	EMBL	M55362	AAAS9485.1	JOINED	
DR	EMBL	M55363	AAAS9485.1	JOINED	
DR	EMBL	M55364	AAAS9485.1	JOINED	
DR	EMBL	M55365	AAAS9485.1	JOINED	
DR	EMBL	M55367	AAAS9485.1	JOINED	
DR	EMBL	M55368	AAAS9485.1	JOINED	
DR	EMBL	M55369	AAAS9485.1	JOINED	
DR	EMBL	M61916	AAAS9482.1	-	
DR	EMBL	M62066	AAAS9487.1	-	
DR	PIR	S13547	MMHUB1		
DR	HSSP	P02468	1KLO		
DR	Genew	HGNC:6486	LAMB1		
DR	MIT	150240	-		
DR	InterPro	IPR006209	EGF like		
DR	InterPro	IPR002049	Laminin_EGF		
DR	InterPro	IPR001866	Lamtn		
DR	Pfam	PF00053	Laminin_EGF_13		
DR	Pfam	PF00055	Laminin_Nterm; 1		
DR	SMART	SMO011	EGFLAMININ		
DR	SMART	SMO0180	EGF Lam; 12		
DR	SMART	SMO0136	Lamtn; 1		
DR	PROSITE	PS00023	EGF_1; 9		
DR	PROSITE	PS01186	EGF_2; 2		
DR	PROSITE	PS01246	LAMININ_TYPE_EGF; 11		
KW	Glycoprotein		Basement membrane; Extracellular matrix; Coiled coil;		
KW	Laminin		EGF-like domain; Cell adhesion; Repeat; Signal; Polymorphism		
FT	SIGNAL	1	21		
FT	CHAIN	22	1786	LAMININ BETA-1 CHAIN	
FT	DOMAIN	22	270	LAMININ N-TERMINAL (DOMAIN VI)	
FT	DOMAIN	271	334	LAMININ EGF-LIKE 1	
FT	DOMAIN	335	397	LAMININ EGF-LIKE 2	
FT	DOMAIN	398	457	LAMININ EGF-LIKE 3	
FT	DOMAIN	458	509	LAMININ EGF-LIKE 4	
FT	DOMAIN	510	540	LAMININ EGF-LIKE 5 (INCOMPLETE)	
FT	DOMAIN	541	771	LAMININ DOMAIN IV	
FT	DOMAIN	773	820	LAMININ EGF-LIKE 6	
FT	DOMAIN	821	866	LAMININ EGF-LIKE 7	
FT	DOMAIN	867	916	LAMININ EGF-LIKE 8	
FT	DOMAIN	917	975	LAMININ EGF-LIKE 9	
FT	DOMAIN	976	1027	LAMININ EGF-LIKE 10	
FT	DOMAIN	1028	1083	LAMININ EGF-LIKE 11	
FT	DOMAIN	1084	1131	LAMININ EGF-LIKE 12	


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FT DOMAIN 1132 1178 LAMININ EGF-LIKE 13.
FT DOMAIN 1179 1397 DOMAIN II.
FT DOMAIN 1398 1430 DOMAIN ALPHA.
FT DOMAIN 1431 1786 DOMAIN I.
FT DOMAIN 1216 1315 COILED COIL (POTENTIAL).
FT DOMAIN 1353 1388 COILED COIL (POTENTIAL).
FT DOMAIN 1442 1781 COILED COIL (POTENTIAL).
FT DISULFID 271 280 BY SIMILARITY.
FT DISULFID 273 298 BY SIMILARITY.
FT DISULFID 300 309 BY SIMILARITY.
FT DISULFID 312 332 BY SIMILARITY.
FT DISULFID 335 344 BY SIMILARITY.
FT DISULFID 337 362 BY SIMILARITY.
FT DISULFID 365 374 BY SIMILARITY.
FT DISULFID 377 395 BY SIMILARITY.
FT DISULFID 398 411 BY SIMILARITY.
FT DISULFID 400 426 BY SIMILARITY.
FT DISULFID 428 437 BY SIMILARITY.
FT DISULFID 440 455 BY SIMILARITY.
FT DISULFID 458 472 BY SIMILARITY.
FT DISULFID 460 479 BY SIMILARITY.
FT DISULFID 481 490 BY SIMILARITY.
FT DISULFID 493 507 BY SIMILARITY.
FT DISULFID 773 785 BY SIMILARITY.
FT DISULFID 794 803 BY SIMILARITY.
FT DISULFID 806 818 BY SIMILARITY.
FT DISULFID 821 833 BY SIMILARITY.
FT DISULFID 823 840 BY SIMILARITY.
FT DISULFID 842 851 BY SIMILARITY.
FT DISULFID 854 864 BY SIMILARITY.
FT DISULFID 867 876 BY SIMILARITY.
FT DISULFID 869 883 BY SIMILARITY.
FT DISULFID 886 895 BY SIMILARITY.
FT DISULFID 898 914 BY SIMILARITY.
FT DISULFID 917 933 BY SIMILARITY.
FT DISULFID 919 944 BY SIMILARITY.

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Query Match      45.8%; Score 55; DB 1; Length 1766;
Best Local Similarity 52.9%; Pred. No. 5,8;
Matches 9; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

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OY 1 CECRPRKDRTPKPKCDK 17
   ||| ||| |||
DB 976 CQCHNNIDPTDPEACDK 992

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RESULT 15
LMB1_MOUSE STANDARD; PRT; 1786 AA.
ID AC P02469;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-JUL-1989 (Rel. 11, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Laminin beta-1 chain precursor (Laminin B1 chain).
GN LAMB1-1 OR LAMB-1.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
OK NCBI_taxid=10090;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=87147212; PubMed=3493487;
RA Sasaki M., Kato S., Kohno K., Martin G.R., Yamada Y.;
RT "Sequence of the cDNA encoding the laminin B1 chain reveals a
RT multidomain protein containing cysteine-rich repeats."
RL Proc. Natl. Acad. Sci. U.S.A. 84:935-939(1987).
RN [2]
RP SEQUENCE OF 1292-1786 FROM N.A.
RX MEDLINE=85051302; PubMed=6209134;
RA Barlow D.P., Green N.M., Kurkinen M., Hogan B.L.M.;
RT "Sequencing of laminin B chain cDNAs reveals C-terminal regions of
RT coiled-coil alpha-helix."

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RL EMBL J. 3:2355-2362(1984).
RN [3]
RP SEQUENCE OF 165-172; 539-547 AND 712-719.
RC STRAIN=BA1B/C; TISSUE=Endothelial cells;
RX MEDLINE=97363207; PubMed=9219532;
RA Frieser M., Noeckel H., Pausch F., Roeder C., Hahn A., Deutzmann R.,
RA Sorokin L.M.;
RT "Cloning of the mouse laminin alpha 4 cDNA. Expression in a subset of
RT endothelium."
RT Eur. J. Biochem. 246:727-735(1997).
CC -1- FUNCTION: Binding to cells via a high affinity receptor. Laminin
CC is thought to mediate the attachment, migration, and organization
CC of cells into tissues during embryonic development by interacting
CC with other extracellular matrix components.
CC -1- SUBUNIT: Laminin is a complex glycoprotein, consisting of three
CC different polypeptide chains (alpha, beta, gamma), which are bound
CC to each other by disulfide bonds into a cross-shaped molecule
CC comprising one long and three short arms with globules at each
CC end.
CC THE BETA-1 CHAIN IS A SUBUNIT OF LAMININ-1 (EHS LAMININ), LAMININ-
CC 2 (MEROSIN), AND LAMININ-6 (K-LAMININ).
CC -1- SUBCELLULAR LOCATION: Extracellular.
CC -1- TISSUE SPECIFICITY: FOUND IN THE BASEMENT MEMBRANES (MAJOR
CC COMPONENT).
CC -1- SIMILARITY: Contains 1 laminin N-terminal domain.
CC -1- SIMILARITY: Contains 13 laminin EGF-like domains.
CC -1- SIMILARITY: Contains 1 laminin IV domain.
CC -----
CC This SWISS-PROT entry is copyright. It is produced through a collaboration
CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
CC the European Bioinformatics Institute. There are no restrictions on its
CC use by non-profit institutions as long as its content is in no way
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CC entities requires a license agreement (See http://www.isb-sib.ch/announce/
CC or send an email to license@sib-sib.ch).
CC -----
CC EMBL; M15525; AAA9407.1; ALT_INIT.
CC EMBL; X05212; CAA28839.1; -.
CC PIR; A26413; MMSBL.
CC HSSP; P02468; IKLO.
CC MGD; MGI:96743; LAMB1-1.
CC InterPro; IPR006209; EGF-like.
CC InterPro; IPR002049; Laminin_EGF.
CC InterPro; IPR001886; LAMNT.
CC Pfam; PF00053; laminin_EGF_13.
CC Pfam; PF00055; laminin_Nterm; 1.
CC PRINTS; PR00011; EGF_LAMININ.
CC SMART; SM00180; EGF_Lam; 11.
CC SMART; SM00136; LAMNT; 1.
CC PROSITE; PS00022; EGF_1; 9.
CC PROSITE; PS01186; EGF_2; 2.
CC PROSITE; PS01248; LAMININ_TYPE_EGF; 11.
CC Glycoprotein; Basement membrane; Extracellular matrix; Coiled coil;
CC Laminin EGF-like domain; Cell adhesion; Repeat; Signal.
CC KW SIGNAL.
FT FT CHAIN 1 21
FT FT 22 1786 LAMININ BETA-1 CHAIN.
FT FT 22 270 LAMININ N-TERMINAL (DOMAIN VI).
FT FT 271 334 LAMININ EGF-LIKE 1.
FT FT 335 397 LAMININ EGF-LIKE 2.
FT FT 398 457 LAMININ EGF-LIKE 3.
FT FT 458 509 LAMININ EGF-LIKE 4.
FT FT 510 540 LAMININ EGF-LIKE 5 (INCOMPLETE).
FT FT 541 772 LAMININ DOMAIN 1.
FT FT 773 820 LAMININ EGF-LIKE 6.
FT FT 821 866 LAMININ EGF-LIKE 7.
FT FT 867 916 LAMININ EGF-LIKE 8.
FT FT 917 975 LAMININ EGF-LIKE 9.
FT FT 976 1027 LAMININ EGF-LIKE 10.
FT FT 1028 1083 LAMININ EGF-LIKE 11.
FT FT 1084 1131 LAMININ EGF-LIKE 12.
FT FT 1132 1178 LAMININ EGF-LIKE 13.
FT FT 1179 1397 DOMAIN II.
FT FT 1398 1430 DOMAIN ALPHA.

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FT	DOMAIN	1431	1786	DOMAIN 1.
FT	DOMAIN	1216	1315	COILED COIL (POTENTIAL).
FT	DOMAIN	1368	1388	COILED COIL (POTENTIAL).
FT	DOMAIN	1448	1778	COILED COIL (POTENTIAL).
FT	DISULFID	271	280	BY SIMILARITY.
FT	DISULFID	273	298	BY SIMILARITY.
FT	DISULFID	300	309	BY SIMILARITY.
FT	DISULFID	312	332	BY SIMILARITY.
FT	DISULFID	335	344	BY SIMILARITY.
FT	DISULFID	337	362	BY SIMILARITY.
FT	DISULFID	365	374	BY SIMILARITY.
FT	DISULFID	377	395	BY SIMILARITY.
FT	DISULFID	398	411	BY SIMILARITY.
FT	DISULFID	400	426	BY SIMILARITY.
FT	DISULFID	428	437	BY SIMILARITY.
FT	DISULFID	440	485	BY SIMILARITY.
FT	DISULFID	458	472	BY SIMILARITY.
FT	DISULFID	460	479	BY SIMILARITY.
FT	DISULFID	481	490	BY SIMILARITY.
FT	DISULFID	493	507	BY SIMILARITY.
FT	DISULFID	773	785	BY SIMILARITY.
FT	DISULFID	775	792	BY SIMILARITY.
FT	DISULFID	794	803	BY SIMILARITY.
FT	DISULFID	806	818	BY SIMILARITY.
FT	DISULFID	821	833	BY SIMILARITY.
FT	DISULFID	823	840	BY SIMILARITY.
FT	DISULFID	842	851	BY SIMILARITY.
FT	DISULFID	854	864	BY SIMILARITY.
FT	DISULFID	867	876	BY SIMILARITY.
FT	DISULFID	869	883	BY SIMILARITY.
FT	DISULFID	886	895	BY SIMILARITY.
FT	DISULFID	898	914	BY SIMILARITY.
FT	DISULFID	917	933	BY SIMILARITY.
FT	DISULFID	919	944	BY SIMILARITY.
FT	DISULFID	946	955	BY SIMILARITY.
FT	DISULFID	958	973	BY SIMILARITY.
FT	DISULFID	976	990	BY SIMILARITY.
FT	DISULFID	978	997	BY SIMILARITY.
FT	DISULFID	1000	1009	BY SIMILARITY.
FT	DISULFID	1012	1025	BY SIMILARITY.
FT	DISULFID	1084	1096	BY SIMILARITY.
FT	DISULFID	1086	1103	BY SIMILARITY.
FT	DISULFID	1105	1114	BY SIMILARITY.
FT	DISULFID	1117	1129	BY SIMILARITY.
FT	DISULFID	1132	1144	BY SIMILARITY.
FT	DISULFID	1134	1151	BY SIMILARITY.
FT	DISULFID	1153	1162	BY SIMILARITY.
FT	DISULFID	1165	1176	BY SIMILARITY.
FT	DISULFID	1179	1179	INTERCHAIN (PROBABLE).
FT	DISULFID	1182	1182	INTERCHAIN (PROBABLE).
FT	DISULFID	1785	1785	INTERCHAIN (PROBABLE).
FT	CARBOHYD	120	120	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	356	356	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	519	519	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	677	677	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	1041	1041	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	1195	1195	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	1279	1279	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	1336	1336	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	1343	1343	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	1487	1487	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	1533	1533	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	1542	1542	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CARBOHYD	1643	1643	N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	CONFLICT	1531	1534	SGNA -> MEMP (IN REF. 2).
FT	CONFLICT	1749	1749	D -> N (IN REF. 2).
SQ	SEQUENCE	1786 AA;	196904 MM;	846671B7BF41A474 CRC64;

Db 976 COCHNIDTTPKCDK 992

Search completed: January 30, 2004, 11:41:03
Job time : 4.61538 secs

Query Match 45.8%; Score 55; DB 1; Length 1786;
Best Local Similarity 52.9%; Pred. No. 5.8;
Matches 9; Conservative 1; Mismatches 7; Indels 0; Gaps 0;

OY 1 CECRPKDKTPEKCDK 17

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:33:38 ; Search time 20.7179 seconds
(without alignments)
249.110 Million cell updates/sec

Title: US-09-266-543-4

Perfect score: 120

Sequence: 1 CECRPKDKRTPEKCDKPRR 20

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues

Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

SPTREMBL_23.*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteria:*
17: sp_archaea:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	101	84.2	65	Q8M1N0	Q8M1N0 capra hircu
2	101	84.2	118	Q9M2B1	Q9M2B1 ovis aries
3	86.5	72.1	148	Q42571	Q42571 xenopus lae
4	85	70.8	190	Q912B1	Q912B1 rattus norv
5	83	69.2	89	Q91Y66	Q91Y66 rattus norv
6	83	69.2	102	Q63672	Q63672 rattus norv
7	81	67.5	65	Q91Y68	Q91Y68 rattus norv
8	72	60.0	142	Q9ERL6	Q9ERL6 mesocricetu
9	72	60.0	190	Q9QX39	Q9QX39 spalax leuc
10	71.5	59.6	144	Q73822	Q73822 brachydanio
11	69	57.5	191	Q96182	Q96182 homo sapien
12	68	57.5	191	Q95N55	Q95N55 macaca fasc
13	68	56.7	189	Q95LQ4	Q95LQ4 felis silve
14	67	55.8	102	Q9XT61	Q9XT61 macaca fasc
15	67	55.8	127	Q8MWC4	Q8MWC4 sus scrofa
16	66	55.0	109	Q8M1N1	Q8M1N1 capra hircu

17	66	55.0	190	Q76643	Q76643 ovis aries
18	65	54.2	124	Q9GK00	Q9GK00 callithrix
19	65	54.2	124	Q8SP29	Q8SP29 sus scrofa
20	65	54.2	184	Q8HY70	Q8HY70 mustela vis
21	65	54.2	191	Q96KJ0	Q96KJ0 homo sapien
22	64	53.3	113	Q8M120	Q8M120 ovis aries
23	64	53.3	131	Q8M786	Q8M786 capreolus c
24	62	51.7	123	Q9N1S1	Q9N1S1 capreolus c
25	62	51.7	128	Q8SP15	Q8SP15 equus caball
26	60	50.0	1028	Q9J1L0	Q9J1L0 mus musculus
27	60	50.0	1048	Q8MWS	Q8MWS gallus galli
28	59	49.2	78	Q9N1S2	Q9N1S2 capreolus c
29	59	49.2	1036	Q9NZV1	Q9NZV1 homo sapien
30	57	47.5	108	Q8HY75	Q8HY75 ovis aries
31	55	45.8	911	Q9CRX6	Q9CRX6 mus musculus
32	55	45.8	984	Q8K271	Q8K271 mus musculus
33	55	45.8	1086	Q8TAS6	Q8TAS6 homo sapien
34	53.5	44.6	279	Q9VH54	Q9VH54 dirosophila
35	53	44.2	17352	Q9SYM2	Q9SYM2 procamburus
36	52.5	43.8	188	Q8TEV2	Q8TEV2 homo sapien
37	52	43.3	1069	Q9BPS2	Q9BPS2 bombyx mori
38	52	43.3	1792	Q57484	Q57484 gallus galli
39	51	42.5	67	Q23779	Q23779 chironomus
40	51	42.5	143	Q23765	Q23765 chironomus
41	51	42.5	515	Q9FN68	Q9FN68 arabidopsis
42	50.5	42.1	77	P79199	P79199 ovis aries
43	50.5	42.1	194	Q42572	Q42572 xenopus lae
44	50.5	42.1	1164	Q8PT00	Q8PT00 methanosaarc
45	50	41.7	120	Q8MVG3	Q8MVG3 ixodes scap

ALIGNMENTS

RESULT 1
Q8M1N0 PRELIMINARY; PRT; 65 AA.
AC Q8M1N0;
DT 01-OCT-2002 (TREMBLrel. 22, Last sequence update)
DT 01-OCT-2002 (TREMBLrel. 22, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor 121 (Fragment).
OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Capra.
NCBI_TaxID=9925;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Corpus luteum;
RA Kawate N., Teuji M., Tamada H., Inaba T., Sawada T.;
RT "Changes of Messenger RNAs Encoding Vascular Endothelial Growth Factor
RT and Its Receptors during the Development and Maintenance of Caprine
RT Corpora lutea."
RL Submitted (MAY-2002) to the EMBL/Genbank/DBJ databases.
DR EMBL, AY114353; AAM7674.1; -
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00278; PDGF_2; 1.
FT NON TER
FT SEQUENCE 65 AA; 7562 MW; BA3B5384364B05E3 CRC64;
Query Match 84.2%; Score 101; DB 6; Length 65;
Best Local Similarity 80.0%; Pred. No. 6.4e-08;
Matches 16; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKDKRTPEKCDKPRR 20
|||||:|||||
Db 46 CECRPKDKRTPEKCDKPRR 65

RESULT 2

OGMZB1 PRELIMINARY; PRT; 118 AA.
 ID 09MZB1
 AC 09MZB1
 DT 01-OCT-2000 (TREMBlrel. 15, Created)
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 GN VEGF.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Caprinae; Ovis.
 OX NCB1_TaxID=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Placental artery endothelium;
 RA Zheng J., Tsai S.C., Magness R.R.;
 RT "Growth factor expression in ovine fetal placental artery endothelial
 cells";
 RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF250375; AAF75258.1; -.
 DR HSSP; P49763; 1F2V.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON_TER 1
 SQ SEQUENCE 118 AA; 13931 MW; 757DC53AA56378A6 CRC64;

Query Match

Best Local Similarity 84.2%; Score 101; DB 6; Length 118;
 Matches 16; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 CECRPKDKRTKPEKCDKPRR 20
 DB 99 CECRPKDKARQEKCDKPRR 118

RESULT 3

042571 PRELIMINARY; PRT; 148 AA.
 ID 042571
 AC 042571
 DT 01-JAN-1998 (TREMBlrel. 05, Created)
 DT 01-JAN-1998 (TREMBlrel. 05, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor 122.
 GN VEGF.
 OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;
 OC Xenopodinae; Xenopus.
 OX NCB1_TaxID=8355;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Clever O., Ionsen K.F., Saha M.S., Krieg P.A.;
 RT "Neovascularization of the Xenopus embryo";
 RL Dev. Dyn. 0:0-0(1997).
 DR EMBL; AF008593; AAB63679.1; -.
 DR HSSP; P49763; 1F2V.
 DR InterPro; IPR002400; GF_cyknoc.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR PRINTS; PR00438; GFCYSKNOT.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;

Query Match

72.1%; Score 86.5; DB 13; Length 148;

Best Local Similarity 71.4%; Pred. No. 2e-05; Indels 1; Gaps 1;
 Matches 15; Conservative 4; Mismatches 1; Indels 1; Gaps 1;

QY 1 CECRPKDKRTKPEKCDKPRR 20
 DB 128 CECRPKDKVSKQKCEKPRR 148

RESULT 4

091ZE1 PRELIMINARY; PRT; 190 AA.
 ID 091ZE1
 AC 091ZE1
 DT 01-DEC-2001 (TREMBlrel. 19, Created)
 DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor.
 GN VEGF.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCB1_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=Sprague-Dawley;
 RA Marion S., Lee T.-C.;
 RT "Cloning of multiple VEGF splice variants from hypoxic neonatal rat
 cardiomyocytes";
 RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AY033506; AAL07526.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 190 AA; 22396 MW; 589374010441F377 CRC64;

Query Match
 Best Local Similarity 70.8%; Score 85; DB 11; Length 190;
 Matches 19; Conservative 1; Mismatches 0; Indels 44; Gaps 1;

QY 1 CECRPKDKRTKPEKCDKPRR 16
 DB 127 CECRPKDKRTKPEKCDKPRR 186
 QY 17 KPRR 20
 DB 187 KPRR 190

RESULT 5

091Y66 PRELIMINARY; PRT; 89 AA.
 ID 091Y66
 AC 091Y66
 DT 01-DEC-2001 (TREMBlrel. 19, Created)
 DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
 DT 01-MAR-2002 (TREMBlrel. 20, Last annotation update)
 DE VEGF18 protein (Fragment).
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCB1_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Heart;
 RA Biot O.J.G., Bigard X.A., van Cuyck-Gandre H.;
 RT "Identification by sequencing of VEGF164 mRNA transcript in rat
 heart";
 RL Submitted (APR-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF261751; AAK49408.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 FT NON_TER 1

[illegible]

RP	SEQUENCE FROM N.A.
RC	TISSUE=Heart;
RA	Biot O.J.G., Bigard X.A., van Cuyck-Gandre H.;
RT	"Identification by sequencing of VEGF164 mRNA transcript in rat heart.";
RL	Submitted (APR-2000) to the EMBL/GenBank/DBJ databases.
RN	[2]
RP	SEQUENCE FROM N.A.
RC	TISSUE=Heart;
RA	Biot O.J.G., Simler N., van Cuyck-Gandre H., Bigard X.A.;
RT	"VEGF gene expression in heart of rats exposed to hypobaric hypoxia.";
RL	Submitted (APR-2000) to the EMBL/GenBank/DBJ databases.
DR	EMBL; AF260425; AAK49386.1; -
DR	InterPro; IPR000772; PD_growth_factor.
FT	Pfam; PF00341; PDGF_1.
FT	NON TER 1
FT	NON TER 65
SQ	SEQUENCE 65 AA; 7690 MW; 76B60P2AFB83D31 CRC64;
Cy	Query Match 67.5%; Score 81; DB 11; Length 65;
	Best Local Similarity 62.5%; Pred. No. 6.3e-05;
Db	Matches 15, Conservative 2; Mismatches 3; Indels 4; Gaps 1
	1 CECPKXDKRTPEK----CDKRR 20
	: :
	16 CECPKXDKRTPEKHCEPCSEERRK 39
ID	O9ERL6 PRELIMINARY; PRT; 142 AA.
AC	O9ERL6;
DT	01-MAR-2001 (TREMBLrel. 16, Created)
DT	01-MAR-2001 (TREMBLrel. 16, Last sequence update)
DT	01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE	Vascular endothelial growth factor VEGF (Fragment).
OS	Mesocricetus auratus (Golden hamster).
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
CC	Mesocricetus.
OX	NCBI_TaxID=10036;
RN	[1]
RP	SEQUENCE FROM N.A.
RA	Ramesh G., Kondiah P., Seshagiri P.B.;
RT	"Regulation of expression of transforming growth factor-beta's by steroid hormone in the hamster uterus.";
RL	Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
DR	EMBL; AF287627; AAG16241.1; -
DR	HSPV; P49763; lFZV.
DR	InterPro; IPR000772; PD_growth_factor.
DR	Pfam; PF00341; PDGF_1.
DR	Prodrom; PD001629; PD_growth_factor; 1.
DR	SMART; SM00141; PDGF_1.
DR	PROSITE; PS00249; PDGF_1; 1.
DR	PROSITE; PS50278; PDGF_2; 1.
FT	NON TER 1
FT	NON TER 142
SQ	SEQUENCE 142 AA; 16621 MW; F7DA16D924E4E99E CRC64;
Cy	Query Match 60.0%; Score 72; DB 11; Length 142;
	Best Local Similarity 58.3%; Pred. No. 0.0029;
Db	Matches 14, Conservative 2; Mismatches 4; Indels 4; Gaps 1;
	1 CECPKXDKRTPEK----CDKRR 20
	: :
	83 CECPKXDKRTPEKHCEPCSEERRK 106
ID	O9QX39 PRELIMINARY; PRT; 190 AA.
AC	O9QX39;
DT	01-MAY-2000 (TREMBLrel. 13, Created)

```

DT 01-MAY-2000 (TREMBlrel. 13, last sequence update)
DE 01-MAR-2003 (TREMBlrel. 23, last annotation update)
DE Vascular endothelial growth factor.
GN VEGF.
OS Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
OC Nanospalax.
OX NCBI_TaxID=30637;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=99313148; PubMed=10386577;
RA Aviv A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
RT "Adaptive hypoxic tolerance in the subterranean mole rat Spalax
RT ehrenbergi: the role of vascular endothelial growth factor.";
RL FEMS Lett 452:133-140(1999).
DR EMBL, AF186236; AAD56245.1; -.
DR HSSP; P49763; 1F2V.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 190 AA; 22488 MW; 2228383BC5F0BFE CRC64;

Query Match 60.0%; Score 72; DB 11; Length 190;
Best Local Similarity 26.6%; Pred. No. 0.0037;
Matches 17; Conservative 2; Mismatches 1; Indels 44; Gaps 1;

QY 1 CECRPRKQRTKPE-----KCD 16
DB 127 CECRPRKQRTKPE-----KCD 16
DB 187 KPRR 190

RESULT 10
ID 073822 PRELIMINARY; PRT; 144 AA.
AC 073822;
DT 01-AUG-1998 (TREMBlrel. 07, Created)
DT 01-AUG-1998 (TREMBlrel. 07, last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, last annotation update)
DE Vascular endothelial growth factor 121 isoform.
GN VEGF.
OS Brachydanio rerio (zebrafish) (Danio rerio).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
OC Cyprinidae; Danio.
OX NCBI_TaxID=7955;
RN [1]
RP SEQUENCE FROM N.A.
RA Liang D., Ge R.;
RT "Vascular endothelial growth factor 121 isoform from zebrafish, Danio
RT rerio.";
RT Submitted (APR-1998) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF059661; AAC14713.1; -.
DR HSSP; P49763; 1F2V.
DR ZFIN; ZDB-GENE-990415-273; vegf.
DR InterPro; IPR002400; GF_cyknct.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR PRINTS; PF00438; GFCYSKNOT.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 144 AA; 16479 MW; 303E6A7407AA0832 CRC64;

Query Match 59.6%; Score 71.5; DB 13; Length 144;

```

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Best Local Similarity 60.0%; Pred. No. 0.0034;
Matches 12; Conservative 4; Mismatches 3; Indels 1; Gaps 1;

QY 1 CECRPRKD-RTKPEKCKPR 19
DB 125 CECRPRKAEVKKKRCRPR 144

RESULT 11
ID 096182 PRELIMINARY; PRT; 191 AA.
AC 096182;
DT 01-DEC-2001 (TREMBlrel. 19, Created)
DT 01-DEC-2001 (TREMBlrel. 19, last sequence update)
DT 01-OCT-2002 (TREMBlrel. 22, last annotation update)
DE Vascular endothelial growth factor.
GN VEGF.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RA Liu J., Peng X., Yuan J., Qiang B.;
RT "Cloning of vascular endothelial growth factor (VEGF) cDNA.";
RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY047581; AAK95847.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 57.5%; Score 69; DB 4; Length 191;
Best Local Similarity 25.0%; Pred. No. 0.011;
Matches 16; Conservative 2; Mismatches 2; Indels 44; Gaps 1;

QY 1 CECRPRKQRTKPE-----KCD 16
DB 128 CECRPRKQRTKPE-----KCD 16
DB 188 KPRR 191

RESULT 12
ID 095NE5 PRELIMINARY; PRT; 191 AA.
AC 095NE5;
DT 01-DEC-2001 (TREMBlrel. 19, Created)
DT 01-DEC-2001 (TREMBlrel. 19, last sequence update)
DT 01-OCT-2002 (TREMBlrel. 22, last annotation update)
DE SIVVEGF165.
GN SIVVEGF165.
OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheidae;
OC Cercopitheidae; Macaca.
OX NCBI_TaxID=9541;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96245208; PubMed=8641836;
RA Shima D.T., Gougos A., Miller J.W., Tolentino M., Robinson G.,
RA Adams A.P., D'Amore P.A.;
RT "Cloning and mRNA expression of vascular endothelial growth factor in
RT isobemic retinas of Macaca fascicularis.";
RL Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
DR EMBL; S82167; ABA47118.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.

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DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 57.5%; Score 69; DB 6; Length 191;
Best Local Similarity 25.0%; Pred. No. 0.011;
Matches 16; Conservative 2; Mismatches 2; Indels 44; Gaps 1;

OY 1 CECRPKDKRTKPEK-----KCD 16
DB 128 CECRPKDKRARQENPGPCSERKHLFVODPOTCKSCNNTSRCKARQLEINERTCRD 187

OY 17 KPRR 20
DB 188 KPRR 191

RESULT 13

O95LQ4 PRELIMINARY; PRT; 189 AA.
AC O95LQ4;
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor.
OS Felis silvestris catus (Cat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
OK NCBI_TaxID=9685;
RN (1)

RP SEQUENCE FROM N.A.
RA Koga I., Kobayashi Y., Yazawa M., Masuda K., Ohno K., Tsujimoto H.;
RT "Nucleotide sequence and expression of the feline vascular endothelial
RT growth factor.";
RL Submitted (SEP-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB071947; BAB68520.1; -
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 189 AA; 22193 MW; C1E4646759AB3FD6 CRC64;

Query Match 56.7%; Score 68; DB 6; Length 189;
Best Local Similarity 73.3%; Pred. No. 0.015;
Matches 11; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

OY 1 CECRPKDKRTKPEK 15
DB 127 CECRPKDKARQENPC 141

RESULT 14

O9XT61 PRELIMINARY; PRT; 102 AA.
AC O9XT61;
DT 01-NOV-1999 (TREMBLrel. 12, Created)
DT 01-NOV-1999 (TREMBLrel. 12, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
GN VEGF.

OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecinae; Macaca.
OX NCBI_TaxID=9541;
RN (1)

RP SEQUENCE FROM N.A.
RC TISSUE=Lung;
RA Kim I.K., Ryan A.M., Rohan R., Amaro S., Aguilar S., Miller J.W.,
RA Adams A.P.;
RT "Constitutive expression of VEGF, VEGFR-1 and VEGFR-2 in normal

RT eyes.";
RL Submitted (NOV-1998) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF106942; AAD20589.1; -
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
FT NON-TER 1
SQ SEQUENCE 102 AA; 12065 MW; 5F2D1A765DC29E02 CRC64;

Query Match 55.8%; Score 67; DB 6; Length 102;
Best Local Similarity 78.6%; Pred. No. 0.012;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CECRPKDKRTKPEK 14
DB 15 CECRPKDKARQEK 28

RESULT 15

O8WMQ4 PRELIMINARY; PRT; 127 AA.
AC O8WMQ4;
DT 01-MAR-2002 (TREMBLrel. 20, Created)
DT 01-MAR-2002 (TREMBLrel. 20, Last sequence update)
DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OK NCBI_TaxID=9623;
RN (1)

RP SEQUENCE FROM N.A.
RA Yuan H., Li J.;
RT TISSUE=Myocardium;
RT "The expression of VEGF in porcine collateral-dependent myocardial by
RT exercise training.";
RL Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY072734; AAL68393.1; -
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR NON-TER 127
SQ SEQUENCE 127 AA; 14920 MW; 5AB63F01ABEC29ED CRC64;

Query Match 55.8%; Score 67; DB 6; Length 127;
Best Local Similarity 78.6%; Pred. No. 0.014;
Matches 11; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CECRPKDKRTKPEK 14
DB 85 CECRPKDKARQEK 98

Search completed: January 30, 2004, 11:44:39
Job time : 21.7179 secs

GenCore version 5.1.6
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OM protein - protein search, using sw_model

Run on: January 30, 2004, 11:27:08 ; Search time 28.7538 Seconds
(without alignments)
115.924 Million cell updates/sec

Title: US-09-266-543-5
Perfect score: 114
Sequence: 1 APTEGEQKSHVIRKMDVYC 21

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues

Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

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- 21: /SIDSI/gcgdata/geneSeq/geneSeq-emb1/AA2000.DAT:*
- 22: /SIDSI/gcgdata/geneSeq/geneSeq-emb1/AA2001.DAT:*
- 23: /SIDSI/gcgdata/geneSeq/geneSeq-emb1/AA2002.DAT:*
- 24: /SIDSI/gcgdata/geneSeq/geneSeq-emb1/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	114	100.0	21	AA18546	Immunogenic peptide
2	105	92.1	133	AAW03041	Mutant vascular en
3	105	92.1	141	AAV24316	Mouse vascular end
4	105	92.1	190	AAW03038	Mutant vascular en
5	105	92.1	190	AAW03039	Mutant vascular en
6	105	92.1	190	AAW03040	Mutant vascular en
7	105	92.1	190	AAW03042	Mutant vascular en
8	105	92.1	190	ABH57038	Mouse ischaemic co
9	101	88.6	146	AA22348	Alternative form o

10	101	88.6	146	13	AA27354	Sequence of vascul
11	101	88.6	146	19	AAW53640	Vascular endotheli
12	101	88.6	146	21	AAV57029	VEGFA 146 amino ac
13	101	88.6	146	22	AA273505	Rat VEGF subunit A
14	101	88.6	190	11	AA208120	Mammalian glioma-d
15	101	88.6	190	13	AA22347	Rat Vascular Endot
16	101	88.6	190	13	AA27350	Sequence of vascul
17	101	88.6	190	13	AA27351	Sequence of vascul
18	101	88.6	190	13	AA27352	Sequence of vascul
19	101	88.6	190	13	AAW53639	Vascular endotheli
20	101	88.6	190	19	AAW53642	Vascular endotheli
21	101	88.6	190	19	AAW53643	Vascular endotheli
22	101	88.6	190	20	AAV33441	Parapox virus VEGF
23	101	88.6	190	21	AAV57028	Vascular endotheli
24	101	88.6	190	22	AAV97567	Human GPCR protei
25	101	88.6	190	22	AA273504	Rat VEGF subunit A
26	101	88.6	190	22	AA273961	Rat VEGF I A subu
27	101	88.6	190	22	AA273962	Rat VEGF II A subu
28	101	88.6	214	13	AA22351	Alternative form o
29	101	88.6	214	13	AA27355	Sequence of vascul
30	101	88.6	214	19	AAW53641	Vascular endotheli
31	101	88.6	214	21	AAV57030	VEGFA 214 amino ac
32	101	88.6	214	22	AAV97569	Human VEGF-A prote
33	101	88.6	214	22	AA273506	Rat VEGF subunit A
34	85	74.6	190	20	AAV33440	Parapox virus VEGF
35	81	71.1	20	14	AA273517	N-terminal portion
36	81	71.1	21	11	AA207271	Folliculo stellate
37	81	71.1	39	11	AA207270	Recombinant-deri
38	81	71.1	120	12	AA20916	Bovine vascular en
39	81	71.1	120	14	AA238916	Bovine VEGF-120.
40	81	71.1	164	12	AA210911	Bovine vascular en
41	81	71.1	164	14	AA238920	Bovine VEGF-164.
42	81	71.1	190	11	AA208001	Bovine vascular en
43	80	70.2	21	12	AA21381	Vascular permeabil
44	80	70.2	25	14	AA23681	Guinea pig VEGF N-c
45	80	70.2	25	17	AA288566	Guinea pig VEGF N-

ALIGNMENTS

RESULT 1	AA18546	AA18546 standard; peptide; 21 AA.
ID	AA18546	
AC	AA18546;	
XX		
DT	15-JAN-2001 (first entry)	
DE	Immunogenic peptide fragment derived from FGF and/or VEGF.	
XX		
KW	Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer;	
KW	vascular endothelial growth factor; hyperproliferative disorder;	
KW	haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis;	
KW	telangiectasia; psoriasis; scleroderma; pyogenic granuloma;	
KW	myocardial angiogenesis; Crohn's disease; plaque neovascularisation;	
KW	arteriovenous malformation; corneal disease; rubeosis;	
KW	neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia;	
KW	arthritis; diabetic neovascularisation; macular degeneration;	
KW	wound healing; peptic ulcer; Helicobacter related disease; fracture;	
KW	keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;	
KW	placentation; cat scratch fever.	
OS	Unidentified.	
XX		
PN	WO200053219-A2.	
XX		
PD	14-SEP-2000.	
XX		
PF	10-MAR-2000; 2000WO-US06320.	
XX		
PR	11-MAR-1999; 99US-0266543.	
XX		

PA (ENTR-) ENTREMED INC.
 XX
 PI Holaday JW, Ruiz A, Madsen J;
 DR WPI: 2000-594263/56.
 XX
 PT An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 PT of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 PS Claim 13; Page 28; 95pp; English.
 XX
 CC AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubecosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentaion and cat scratch fever.
 CC
 SQ Sequence 21 AA;
 Query Match 100.0%; Score 114; DB 21; Length 21;
 Best Local Similarity 100.0%; Pred. No. 2.9e-12;
 Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 APTTEGEQKSHVVKFMDVYC 21
 DB 1 APTTEGEQKSHVVKFMDVYC 21
 RESULT 2
 AAM03041
 ID AAM03041 standard; protein; 133 AA.
 AC AAM03041;
 XX
 DT 11-FEB-1997 (first entry)
 XX
 DE Mutant vascular endothelial growth factor (truncated protein).
 XX
 KW Receptor protein tyrosine kinase; assay; screening; agonist;
 KW activator; vascular permeability; angiogenesis; tumour therapy;
 KW wound healing; vascular endothelial growth factor;
 KW neuroepithelial tyrosine kinase.
 XX
 OS Mus musculus.
 XX
 PN WO9620403-A1.
 XX
 PD 04-JUL-1996.
 XX
 PF 22-DEC-1995; 95WO-US16753.
 XX
 PR 23-DEC-1994; 94AU-0000301.
 PR 23-DEC-1994; 94AU-0000300.
 XX
 PA (LUDM-) LUDMIG INST CANCER RES.
 XX
 PI Stacker SA, Wilks AF;
 XX
 DR WPI: 1996-321946/32.
 XX
 PT New receptor protein tyrosine kinase assays - used to identify
 PT inhibitors or activators which can be used in therapy involving
 PT angiogenesis or vascular permeability
 XX

PS Claim 33; Page 52; 78pp; English.
 XX
 CC Receptor protein tyrosine kinase assays can be used to
 CC identify inhibitors of receptor tyrosine kinases which can be
 CC utilised for inhibiting vascular permeability or for preventing
 CC angiogenesis e.g in tumour therapy; or the assays can be used to
 CC identify activators of receptor tyrosine kinases which can be used
 CC to induce vascular permeability or to enhance angiogenic activity,
 CC e.g., in wound healing. This mutant vascular endothelial growth factor
 CC is a truncated protein. It is a receptor agonist.
 CC
 SQ Sequence 133 AA;
 Query Match 92.1%; Score 105; DB 17; Length 133;
 Best Local Similarity 100.0%; Pred. No. 8.3e-10;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 APTTEGEQKSHVVKFMDVY 20
 DB 27 APTTEGEQKSHVVKFMDVY 46
 RESULT 3
 AAY24316
 ID AAY24316 standard; Protein; 141 AA.
 AC AAY24316;
 XX
 DT 16-SEP-1999 (first entry)
 XX
 DE Mouse vascular endothelial growth factor 115.
 XX
 KW Mouse; vascular endothelial growth factor; VEGF115.
 XX
 OS Mus sp.
 XX
 PN JP1169183-A.
 XX
 PD 29-JUN-1999.
 XX
 PF 11-DEC-1997; 97JP-0362118.
 XX
 PR 11-DEC-1997; 97JP-0362118.
 XX
 PA (AGENCY OF IND SCI & TECHNOLOGY.
 PA (TONG) TOA GOSSEI CHEM IND LTD.
 XX
 DR WPI: 1999-422621/36.
 DR N-PSDB; AAX88959.
 XX
 PT Vascular endothelial growth factor - and DNA encoding it
 XX
 PS Claim 1; Page 8; 16pp; Japanese.
 XX
 CC The present sequence represents mouse vascular endothelial growth
 CC factor designated VEGF115.
 CC
 SQ Sequence 141 AA;
 Query Match 92.1%; Score 105; DB 20; Length 141;
 Best Local Similarity 100.0%; Pred. No. 8.9e-10;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 APTTEGEQKSHVVKFMDVY 20
 DB 27 APTTEGEQKSHVVKFMDVY 46
 RESULT 4
 AAM03038
 ID AAM03038 standard; protein; 190 AA.
 AC AAM03038;
 XX

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XX 10-FEB-1997 (first entry)
DT Mutant vascular endothelial growth factor.
DE
XX Receptor protein tyrosine kinase; assay; screening; agonist;
XX activator; vascular permeability; angiogenesis; tumour therapy;
KW wound healing; vascular endothelial growth factor;
XX neuroepithelial tyrosine kinase.
OS Mus musculus.
XX WO9620403-A1.
XX 04-JUL-1996.
XX 22-DEC-1995; 95WO-US16753.
XX 23-DEC-1994; 94AU-0000301.
XX 23-DEC-1994; 94AU-0000300.
XX (LUDM-) LUDWIG INST CANCER RES.
XX
XX Stacker SA, Wilks AF;
XX WPI, 1996-321946/32.
XX
XX New receptor protein tyrosine kinase assays - used to identify
XX inhibitors or activators which can be used in therapy involving
XX angiogenesis or vascular permeability
XX
XX Claim 33; Page 49-50; 78pp; English.
XX
XX Receptor protein tyrosine kinase assays can be used to
XX identify inhibitors of receptor tyrosine kinases which can be
XX utilised for inhibiting vascular permeability or for preventing
XX angiogenesis e.g in tumour therapy; or the assays can be used to
XX identify activators of receptor tyrosine kinases which can be used
XX to induce vascular permeability or to enhance angiogenic activity,
XX e.g., in wound healing. This mutant vascular endothelial growth factor
XX comprises a K73S substitution and was identified in an assay
XX involving the receptor protein neuroepithelial tyrosine kinase
XX (NYK). It is a receptor agonist.
XX
XX Sequence 190 AA:
SQ
Query Match 92.1%; Score 105; DB 17; Length 190;
Best Local Similarity 100.0%; Pred. No. 1.3e-09;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 APTTEGQKSHVTKFMDVY 20
Db 27 APTTEGQKSHVTKFMDVY 46

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XX 04-JUL-1996.
PD Mutant vascular endothelial growth factor.
XX
XX 22-DEC-1995; 95WO-US16753.
XX
XX 23-DEC-1994; 94AU-0000301.
XX 23-DEC-1994; 94AU-0000300.
XX (LUDM-) LUDWIG INST CANCER RES.
XX
XX Stacker SA, Wilks AF;
XX WPI, 1996-321946/32.
XX
XX New receptor protein tyrosine kinase assays - used to identify
XX inhibitors or activators which can be used in therapy involving
XX angiogenesis or vascular permeability
XX
XX Claim 33; Page 50; 78pp; English.
XX
XX Receptor protein tyrosine kinase assays can be used to
XX identify inhibitors of receptor tyrosine kinases which can be
XX utilised for inhibiting vascular permeability or for preventing
XX angiogenesis e.g in tumour therapy; or the assays can be used to
XX identify activators of receptor tyrosine kinases which can be used
XX to induce vascular permeability or to enhance angiogenic activity,
XX e.g., in wound healing. This mutant vascular endothelial growth factor
XX comprises an H11G substitution and was identified in an assay
XX involving the receptor protein neuroepithelial tyrosine kinase
XX (NYK). It is a receptor agonist.
XX
XX Sequence 190 AA:
SQ
Query Match 92.1%; Score 105; DB 17; Length 190;
Best Local Similarity 100.0%; Pred. No. 1.3e-09;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 APTTEGQKSHVTKFMDVY 20
Db 27 APTTEGQKSHVTKFMDVY 46

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```

RESULT 5
ID AAW03039 standard; protein; 190 AA.
XX
XX AAW03039;
XX
XX 11-FEB-1997 (first entry)
XX
XX Mutant vascular endothelial growth factor.
XX
XX Receptor protein tyrosine kinase; assay; screening; agonist;
XX activator; vascular permeability; angiogenesis; tumour therapy;
KW wound healing; vascular endothelial growth factor;
XX neuroepithelial tyrosine kinase.
XX
XX Mus musculus.
XX
XX WO9620403-A1.
XX

```

```

RESULT 6
ID AAW03040 standard; protein; 190 AA.
XX
XX AAW03040;
XX
XX 11-FEB-1997 (first entry)
XX
XX Mutant vascular endothelial growth factor.
XX
XX Receptor protein tyrosine kinase; assay; screening; agonist;
XX activator; vascular permeability; angiogenesis; tumour therapy;
KW wound healing; vascular endothelial growth factor;
XX neuroepithelial tyrosine kinase.
XX
XX Mus musculus.
XX
XX WO9620403-A1.
XX
XX 04-JUL-1996.
XX
XX 22-DEC-1995; 95WO-US16753.
XX
XX 23-DEC-1994; 94AU-0000301.
XX 23-DEC-1994; 94AU-0000300.
XX (LUDM-) LUDWIG INST CANCER RES.
XX
XX Stacker SA, Wilks AF;
XX WPI, 1996-321946/32.
XX

```

XX New receptor protein tyrosine kinase assays - used to identify
 PT inhibitors or activators which can be used in therapy involving
 PT angiogenesis or vascular permeability
 XX
 PS Claim 33; Page 51; 78pp; English.
 CC Receptor protein tyrosine kinase assays can be used to
 CC identify inhibitors of receptor tyrosine kinases which can be
 CC utilised for inhibiting vascular permeability or for preventing
 CC angiogenesis e.g. in tumour therapy; or the assays can be used to
 CC identify activators of receptor tyrosine kinases which can be used
 CC to induce vascular permeability or to enhance angiogenic activity,
 CC e.g., in wound healing. This mutant vascular endothelial growth factor
 CC comprises a G117V substitution and was identified in an assay
 CC involving the receptor protein neuroepithelial tyrosine kinase
 CC (NTK). It is a receptor agonist.
 CC
 SQ Sequence 190 AA;
 Query Match 92.1%; Score 105; DB 17; Length 190;
 Best Local Similarity 100.0%; Pred. No. 1.3e-09;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Qy 1 APTTEGQKSHVVKFMDVY 20
 |||||
 DB 27 APTTEGQKSHVVKFMDVY 46
 |||||
 RESULT 7
 AAM03042
 ID AAM03042 standard; protein; 190 AA.
 AC AAM03042;
 DT 11-FEB-1997 (first entry)
 DE Mutant vascular endothelial growth factor.
 DE
 DE Receptor protein tyrosine kinase; assay; screening; agonist;
 KM activator; vascular permeability; angiogenesis; tumour therapy;
 KM wound healing; vascular endothelial growth factor;
 KM neuroepithelial tyrosine kinase.
 XX
 OS Mus musculus.
 EN W09620403-A1.
 PD 04-JUL-1996.
 XX
 PF 22-DEC-1995; 95MO-US16753.
 XX
 PR 23-DEC-1994; 94AU-0000301.
 PR 23-DEC-1994; 94AU-0000300.
 XX
 PA (LUDWIG-) LUDWIG INST CANCER RES.
 XX
 PI Stecker SA, Wilks AF;
 DR WPI, 1996-321946/32.
 DR
 PT New receptor protein tyrosine kinase assays - used to identify
 PT inhibitors or activators which can be used in therapy involving
 PT angiogenesis or vascular permeability
 XX
 PS Claim 33; Page 52-53; 78pp; English.
 CC Receptor protein tyrosine kinase assays can be used to
 CC identify inhibitors of receptor tyrosine kinases which can be
 CC utilised for inhibiting vascular permeability or for preventing
 CC angiogenesis e.g. in tumour therapy; or the assays can be used to
 CC identify activators of receptor tyrosine kinases which can be used
 CC to induce vascular permeability or to enhance angiogenic activity,

CC e.g., in wound healing. This mutant vascular endothelial growth factor
 CC comprises the following substitutions: K109R, P110S, H111G, Q112D,
 CC S113R, Q114P and H115S. It was designated VEGFO and was identified
 CC in an assay involving the receptor protein neuroepithelial tyrosine
 CC kinase (NTK). It is a receptor agonist.
 CC
 SQ Sequence 190 AA;
 Query Match 92.1%; Score 105; DB 17; Length 190;
 Best Local Similarity 100.0%; Pred. No. 1.3e-09;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Qy 1 APTTEGQKSHVVKFMDVY 20
 |||||
 DB 27 APTTEGQKSHVVKFMDVY 46
 |||||
 RESULT 8
 ABB57038
 ID ABB57038 standard; Protein; 190 AA.
 AC ABB57038;
 DT 07-MAR-2002 (first entry)
 DE Mouse ischaemic condition related protein sequence SEQ ID NO:50.
 DE
 DE Mouse; ischaemia; compressive ischaemia; occlusive ischaemia;
 KM vasospastic ischaemia; ischaemic condition; ischaemic disease.
 XX
 OS Mus musculus.
 EN W0200188188-A2.
 PD 22-NOV-2001.
 XX
 PF 18-MAY-2001; 2001WO-JP04192.
 XX
 PR 18-MAY-2000; 2000JP-0145977.
 XX
 PA (UNIV-) UNIV NIHON SCHOOL JURIDICAL PERSON.
 XX
 PI Ishikawa K, Asai S, Takahashi Y, Nagata T, Ishii Y;
 DR WPI; 2002-034733/04.
 DR N-PSDB; ABI99232.
 XX
 PT Examining the ischemic condition (e.g. occlusive ischemia) by measuring
 PT expression levels of particular genes defined in the specification or
 PT by determining the expression profile of a gene group comprising these
 PT genes -
 XX
 PS Claim 2; Page 167-168; 2690pp; English.
 XX
 CC The present invention describes a method for examining ischaemic
 CC conditions, comprising measuring the expression levels of particular
 CC genes (I) in a test sample or determining the expression profile of a
 CC gene group in the sample comprising genes selected from (I). The method
 CC is useful for examining the ischaemic condition (e.g. compressive
 CC ischaemia, occlusive ischaemia or vasospastic ischaemia) by measuring
 CC expression levels of particular genes (ABI99202 to ABI99912, encoding
 CC the protein sequences in ABB57020 to ABB57374) or by determining the
 CC expression profile of a gene group comprising these genes. The
 CC expression levels or expression profiles produced by these genes are
 CC used as an indicator when screening for ischaemic condition-improving
 CC drugs or therapeutics for ischaemic diseases. ABI99913 and ABI99914
 CC represent PCR primers for a mouse ischaemic condition related sequence,
 CC which are used in the exemplification of the present invention.
 XX
 SQ Sequence 190 AA;
 Query Match 92.1%; Score 105; DB 23; Length 190;
 Best Local Similarity 100.0%; Pred. No. 1.3e-09;


```

XX XX Vascular endothelial growth factor II A subunit variant.
DE XX
XX XX Vascular endothelial cell growth factor; VEGF II; rat; glioma cell;
KM XX mitogenesis; blood vessel growth; artificial blood vessel.
OS XX
XX XX Rattus sp.
PN XX US5726152-A.
XX XX 10-MAR-1998.
PD XX
XX XX 31-AUG-1994; 94US-0299185.
XX XX
XX XX 31-AUG-1994; 94US-0299185.
PR XX 21-SEP-1990; 90US-0586638.
PR XX 05-JAN-1993; 93US-0000834.
XX XX
XX XX (MERI ) MERCK & CO INC.
XX XX
XX XX Bayne ML, Conn GL, Thomas KA;
PI XX
XX XX WPI, 1998-206007/18.
DR XX
XX XX Vascular endothelial growth factor proteins - having specified A and
PT XX B sub-unite
XX XX
XX XX Claim 1; Page -: 46pp; English.
XX XX
XX XX The present sequence represents a rat vascular endothelial growth factor
CC XX II (VEGF II) A subunit variant with a conversion of Asn 140 to Lys 140,
CC XX and the deletion of His 141 to Arg 184 from the wild-type given in
CC XX AAM53639. The present invention describes: (1) a mammalian VEGF II
CC XX and protein comprising an A subunit from AAM53639, AAM53640 or AAM53641, and
CC XX a B subunit from AAM53638, AAM53639 or the first 115-135 amino acids of
CC XX AAM53638; and (2) a mammalian VEGF comprising a heterodimer or homodimer
CC XX of B subunits. The growth factor is used for promoting vascular
CC XX development and repair and for promoting tissue repair.
CC XX N.B. The present sequence is not given in the specification but is
CC XX derived from Fig 5 as stated in the claim.
XX XX
XX XX
SQ XX Sequence 146 AA;
XX XX
XX XX Query Match 88.6%; Score 101; DB 19; Length 146;
XX XX Best Local Similarity 90.0%; Pred. No. 4.4e-09;
XX XX Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
OY 1 APTTEGQKSHVVKFMDVY 20
DB 27 APTTEGQKSHVVKFMDVY 46
XX XX
XX XX RESULT 12
XX XX AAY57029
XX XX ID AAY57029 standard; Protein; 146 AA.
XX XX
XX XX AAY57029;
XX XX
XX XX 15-FEB-2000 (first entry)
XX XX
XX XX VEGFA 146 amino acid residue subunit sequence.
XX XX
XX XX VEGF; vascular endothelial growth factor; A subunit; tissue growth;
KM XX vascular development; artificial blood vessel; repair; human.
XX XX
XX XX Homo sapiens.
XX XX
XX XX US5994300-A.
XX XX
XX XX 30-NOV-1999.
XX XX
XX XX 20-SEP-1993; 93US-0124259.
XX XX
XX XX

```

```

PR 28-MAR-1991; 91US-0676436.
XX XX
XX XX (MERI ) MERCK & CO INC.
XX XX
XX XX Thomas KA, Bayne ML;
XX XX
XX XX WPI, 2000-038268/03.
XX XX DR N-PSDB; AA239827.
XX XX
XX XX Purified and isolated vascular endothelial cell growth factor C subunit
PT XX for the induction of tissue repair or growth -
XX XX
XX XX Disclosure; Fig 3; 58pp; English.
XX XX
XX XX This is the amino acid sequence of a 146 amino acid residue A subunit of
CC XX vascular endothelial cell growth factor (VEGF). The invention relates to
CC XX a purified and isolated VEGF C subunit amino acid sequence AAY57025.
CC XX VEGF exists in various microheterogeneous forms, and is useful for the
CC XX promotion of vascular development and repair. The invention also relates
CC XX to human VEGF heterodimers AC or BC and homodimer CC, where A, B and C
CC XX are subunit amino acid sequences. The VEGF AC, BC or CC amino acid
CC XX sequences can be used in a tissue repairing pharmaceutical composition.
CC XX The novel growth factors are useful for the production or coverage of
CC XX artificial blood vessels with vascular endothelial cell. They are also
CC XX useful for the induction of tissue growth and repair.
XX XX
XX XX
SQ XX Sequence 146 AA;
XX XX
XX XX Query Match 88.6%; Score 101; DB 21; Length 146;
XX XX Best Local Similarity 90.0%; Pred. No. 4.4e-09;
XX XX Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
OY 1 APTTEGQKSHVVKFMDVY 20
DB 27 APTTEGQKSHVVKFMDVY 46
XX XX
XX XX RESULT 13
XX XX AAB37505
XX XX ID AAB37505 standard; Protein; 146 AA.
XX XX
XX XX AAB37505;
XX XX
XX XX 26-FEB-2001 (first entry)
XX XX
XX XX Rat VEGF subunit A SEQ ID NO: 33.
XX XX
XX XX Vascular endothelial growth factor; VEGF C subunit; cell division;
KM XX artificial blood vessel; tissue growth; tissue repair.
XX XX
XX XX Rattus sp.
XX XX
XX XX US6140073-A.
XX XX
XX XX 31-OCT-2000.
XX XX
XX XX 16-JAN-1996; 96US-0586039.
XX XX
XX XX 20-SEP-1993; 93US-0124259.
XX XX PR 28-MAR-1991; 91US-0676436.
XX XX
XX XX (MERI ) MERCK & CO INC.
XX XX
XX XX Thomas KA, Bayne ML;
XX XX
XX XX WPI, 2001-014858/02.
XX XX DR N-PSDB; AAC83512.
XX XX
XX XX Human vascular endothelial cell growth factor (VEGF) C subunit DNA and
PT XX protein, useful for promoting vascular development and repair, and for
PT XX promoting tissue repair, especially for treating wounds in mammals -
XX XX Example 9; Fig 4; 58pp; English.
XX XX

```

XX The present invention is concerned with the human vascular endothelial
 CC growth factor (VEGF) C subunit. VEGF is a vascular endothelial cell
 CC mitogen and can be used to promote vascular development and repair. The C
 CC subunit may exist as a homodimer or a heterodimer with the VEGF A or B
 CC subunit. VEGF can be used in the treatment of wounds of mammals, to cover
 CC artificial blood vessels with vascular endothelial cells, in the
 CC production of artificial blood vessels and to induce tissue repair or
 CC growth.

XX Sequence 146 AA;

Query Match 88.6%; Score 101; DB 22; Length 146;

Best Local Similarity 90.0%; Pred. No. 4.4e-09;
 Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTTEGEOKSHVVKFMDVY 20
 |||||:|||||
 DB 27 APTTEGEOKAHEVVKFMDVY 46

RESULT 14

AA08120 AAR08120 standard; protein; 190 AA.

XX AAR08120;

XX 24-FEB-1991 (first entry)

DE Mammalian glioma-derived growth factor (SDGF) gene product.

XX Mitogenesis; wound healing.

XX Rattus rattus.

XX EP399816-A.

XX 28-NOV-1990.

XX 23-MAY-1990; 90EP-0305637.

XX 30-MAR-1990; 90US-0500421.

XX 24-MAY-1989; 89US-0356477.

XX (MERI) MERCK & CO INC.

XX PI Bayne ML, Conn GL, Thomas KA;

XX WPI; 1990-356428/48.

XX N-PSDB; AAQ06741.

PT Glioma-derived growth factor - stimulates mitogenesis of
 PT mammalian endothelial cells and is used in vitro or in vivo to
 PT stimulate growth

PS Claim 19; Fig 1; 19pp; English.

CC GDGF stimulates mitogenesis and vascular endothelial cell growth.
 CC useful in promoting wound healing or tissue growth. It allows vascular
 CC explants to be grown on a GDGF treated surface for implantation in a
 CC host. The sequence was isolated from the GS-9L rat cells.

XX Sequence 190 AA;

Query Match 88.6%; Score 101; DB 11; Length 190;

Best Local Similarity 90.0%; Pred. No. 6e-09;
 Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTTEGEOKSHVVKFMDVY 20
 |||||:|||||
 DB 27 APTTEGEOKAHEVVKFMDVY 46

RESULT 15

AA022347 AAR22347 standard; Protein; 190 AA.

XX AAR22347;

DT 29-JUL-1992 (first entry)

DE Rat Vascular Endothelial Growth Factor A-subunit.

XX VEGF-I; mammalian glioma cell; conditioned medium; heterodimer;

XX homodimer; mitogenesis; VEGF-II; vascular repair;

XX blood vessel implant.

XX Rattus.

XX Key Location/Qualifiers

FT Peptide 1..26

FT Protein /label= signal

FT Modified-site /label= mature_VEGF_A_monomer

FT Peptide /label= N-glycosylation

FT Peptide /label= T27

FT Peptide /label= T41

FT Peptide /label= T65

FT Peptide /label= T18

FT Peptide /label= T15

FT Peptide /label= T15

FT Peptide /label= T22

FT Peptide /label= T32

FT Peptide /label= T32

FT Peptide /label= T32

FT Peptide /label= T32

FT Peptide /label= T32

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FT Peptide /label= T32

FT Peptide /label= T32

FT Peptide /label= T32

FT Peptide /label= T32

FT Peptide /label= T32

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FT      Peptide      /note= "Leu C cleavage peptide"
FT      134..150
FT      /label= L16
FT      /note= "Leu C cleavage peptide"
FT      173..190
FT      /label= L20
FT      /note= "Leu C cleavage peptide"
FT      27..43
FT      /label= CB26
FT      /note= "Cyanogen Bromide cleavage peptide"
FT      107..119
FT      /label= CB18-19
FT      /note= "Cyanogen Bromide cleavage peptide"
EP476983-A.
PD      25-MAR-1992.
XX      18-SEP-1991; 91EP-0308489.
XX      21-SEP-1990; 90US-0586640.
PR      21-SEP-1990; 90US-0586638.
XX      (MERI ) MERCK & CO INC.
XX      PA
XX      PI
XX      Bayne ML, Conn GL, Thomas KA;
XX      MPI: 1992-098641/13.
XX      N-PEDB; AAQ3038.
XX      DR
XX      Vascular endothelial cell growth factor II - used as coating for
XX      PT artificial blood vessels or to promote tissue repair
XX      PS
XX      Disclosure; Fig 4; 38pp; English.
XX      CC
XX      The VEGF-I A-subunit was found to be identical to the VEGF-II
XX      CC A-subunit. The isolated A-monomer was treated with trypsin, CNBr,
XX      CC Lys C or V8 protease. The peptides resulting from the digestions
XX      CC were isolated and sequenced using the Edman degradation reaction in
XX      CC a gas phase sequenator. In addition to the peptide fragments which
XX      CC were directly sequenced, the full-length protein sequence was
XX      CC deduced from the cDNA encoding it.
XX      CC See also AAQ3040-Q23059.
XX      CC
XX      SQ
XX      Sequence 190 AA;
Query Match 88.6%; Score 101; DB 13; Length 190;
Best Local Similarity 90.0%; Pred. No. 6e-09;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
QY      1 APTGEGOKSHEVIKMDY 20
      |||||:|||||
Db      27 APTGEGOKAHEVVKMDY 46

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Search completed: January 30, 2004, 11:40:07
 Job time : 29.8788 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:35:33 ; Search time 8.93846 Seconds
(without alignments)
99.405 Million cell updates/sec

Title: US-09-266-543-5

Sequence: 1 APTGEQKSHVIRKMDVYC 21

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

Issued Patents AA:*
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2: /cgn2_6/prodata/1/1aa/5B_COMB.pep:*
3: /cgn2_6/prodata/1/1aa/6A_COMB.pep:*
4: /cgn2_6/prodata/1/1aa/6B_COMB.pep:*
5: /cgn2_6/prodata/1/1aa/PTUS_COMB.pep:*
6: /cgn2_6/prodata/1/1aa/backfile1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	105	92.1	190	2	US-08-569-063C-20
2	101	88.6	25	3	US-08-807-992B-31
3	101	88.6	146	3	US-08-586-039B-33
4	101	88.6	146	4	US-09-699-769-33
5	101	88.6	190	3	US-08-586-039B-31
6	101	88.6	190	4	US-09-699-769-31
7	101	88.6	214	3	US-08-586-039B-35
8	101	88.6	214	4	US-09-699-769-35
9	89.5	78.5	189	1	US-08-669-427A-15
10	81	71.1	21	6	5194596-11
11	81	71.1	21	6	5219739-11
12	81	71.1	39	6	5194596-11
13	81	71.1	41	6	5194596-21
14	81	71.1	41	6	5219739-26
15	81	71.1	120	6	5194596-9
16	81	71.1	120	6	5219739-9
17	81	71.1	164	6	5194596-17
18	81	71.1	164	6	5219739-17
19	81	71.1	164	6	5219739-18
20	81	71.1	190	6	5332671-3
21	80	70.2	25	1	US-08-327-709-1
22	80	70.2	25	1	US-08-457-229-1
23	80	70.2	25	2	US-08-457-487-1
24	80	70.2	25	2	US-08-464-956-1
25	80	70.2	25	2	US-08-479-733A-30
26	80	70.2	25	2	US-08-350-212-1
27	80	70.2	25	3	US-08-807-992B-17

28	80	70.2	25	3	US-08-807-992B-20	Sequence 20, App1
29	80	70.2	25	3	US-08-479-727A-30	Sequence 30, App1
30	80	70.2	25	3	US-08-482-369A-30	Sequence 30, App1
31	80	70.2	25	3	US-09-207-277-1	Sequence 1, App1
32	80	70.2	25	4	US-09-561-500-11	Sequence 11, App1
33	80	70.2	25	4	US-09-561-108-11	Sequence 11, App1
34	80	70.2	25	4	US-09-561-526-11	Sequence 11, App1
35	80	70.2	25	4	US-09-357-592-11	Sequence 11, App1
36	80	70.2	25	4	US-09-561-499-11	Sequence 11, App1
37	80	70.2	36	6	5240848-1	Patent No. 5240848
38	72	63.2	231	5	PCT-US96-09001-10	Sequence 10, App1
39	68	59.6	14	3	US-08-586-039B-1	Sequence 1, App1
40	68	59.6	14	4	US-09-699-769-1	Sequence 1, App1
41	65.5	57.5	26	1	US-08-327-709-3	Sequence 3, App1
42	65.5	57.5	26	1	US-08-327-709-4	Sequence 4, App1
43	65.5	57.5	26	1	US-08-457-229-2	Sequence 2, App1
44	65.5	57.5	26	2	US-08-457-487-2	Sequence 2, App1
45	65.5	57.5	26	2	US-08-464-956-3	Sequence 3, App1

ALIGNMENTS

RESULT 1
US-08-569-063C-20
; Sequence 20, Application US/08569063C
; Patent No. 5928939
; GENERAL INFORMATION:
; APPLICANT: ERIKSSON, Ulf
; APPLICANT: OLOFSSON, Birgitta
; APPLICANT: ALITALO, Kari
; APPLICANT: PAKUSOLA, Katri
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Evenson, McKeown, Edwards & Lenahan, P.L.L.C.
; STREET: 1200 G Street, N.W., Suite 700
; CITY: Washington
; STATE: DC
; COUNTRY: USA
; ZIP: 20005
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/569,063C
; FILING DATE: 06-DEC-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/469,427
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/397,651
; FILING DATE: 01-MAR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: EVANS, Joseph D
; REGISTRATION/DOCKET NUMBER: 26, 269
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202) 628-8800
; TELEFAX: (202) 628-8844
; INFORMATION FOR SEQ ID NO: 20:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 190 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-569-063C-20
Query Match 92.1%; Score 105; DB 2; Length 190;

Best Local Similarity 100.0%; Pred. No. 3e-10;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 APTTEGOKSHVVKFMDVY 20
Db 27 APTTEGOKSHVVKFMDVY 46

RESULT 2

US-08-807-992B-31
Sequence 31, Application US/08807992B
Patent No. 6022541

GENERAL INFORMATION:

APPLICANT: Senger, Donald R

TITLE OF INVENTION: Immunological preparation for concurrent

TITLE OF INVENTION: specific binding to spatially exposed regions of vascular

TITLE OF INVENTION: permeability factor bound in-vivo to a tumor associated blood

NUMBER OF SEQUENCES: 31

CORRESPONDENCE ADDRESS:

ADDRESSEE: David Prashker, Esq.

STREET: P. O. Box 5387

CITY: Magnolia

STATE: Massachusetts

COUNTRY: USA

ZIP: 01930

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette, 3.50 inch, 1.40 MB storage

COMPUTER: IBM PS/1

OPERATING SYSTEM: MS DOS

SOFTWARE: Wordperfect version 5.1

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/807,992B

FILING DATE: March 3, 1997

CLASSIFICATION: 424

ATTORNEY/AGENT INFORMATION:

NAME: David Prashker, Esq.

REGISTRATION NUMBER: 29,693

REFERENCE/DOCKET NUMBER: BIS-033

TELECOMMUNICATION INFORMATION:

TELEPHONE: (978) 525-3794

INFORMATION FOR SEQ ID NO: 31:

SEQUENCE CHARACTERISTICS:

LENGTH: 25 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: peptide

FRAGMENT TYPE: N-terminal

US-08-807-992B-31

Query Match

Best Local Similarity 88.6%; Score 101; DB 3; Length 25;

Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 APTTEGOKSHVVKFMDVY 20

Db 1 APTTEGOKSHVVKFMDVY 20

RESULT 3

US-08-586-039B-33

Sequence 33, Application US/08586039B

Patent No. 6140073

GENERAL INFORMATION:

APPLICANT: Bayne, Marvin L.

TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C

NUMBER OF SEQUENCES: 49

CORRESPONDENCE ADDRESS:

ADDRESSEE: Merck & Co., Inc.

STREET: 126 E. Lincoln Avenue

CITY: Rahway

STATE: New Jersey

COUNTRY: USA

ZIP: 07065-0900

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Microsoft Word 6

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/586,039B

FILING DATE: 16-JAN-1996

CLASSIFICATION:

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/124,259

FILING DATE: 20-SEP-1993

APPLICATION NUMBER: 07/676,436

FILING DATE: 28-MAR-1991

ATTORNEY/AGENT INFORMATION:

NAME: Hand, J. Mark

REGISTRATION NUMBER: 36,545

REFERENCE/DOCKET NUMBER: 18361DA

TELECOMMUNICATION INFORMATION:

TELEPHONE: (908) 594-3905

TELEFAX: (908) 594-4720

INFORMATION FOR SEQ ID NO: 33:

SEQUENCE CHARACTERISTICS:

LENGTH: 146 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-586-039B-33

Query Match

Best Local Similarity 88.6%; Score 101; DB 3; Length 146;

Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 APTTEGOKSHVVKFMDVY 20

Db 27 APTTEGOKSHVVKFMDVY 46

RESULT 4

US-09-699-769-33

Sequence 33, Application US/09699769

Patent No. 6569434

GENERAL INFORMATION:

APPLICANT: Bayne, Marvin L.

TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR

NUMBER OF SEQUENCES: 49

CORRESPONDENCE ADDRESS:

ADDRESSEE: Merck & Co., Inc.

STREET: 126 E. Lincoln Avenue

CITY: Rahway

STATE: New Jersey

COUNTRY: USA

ZIP: 07065-0900

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Microsoft Word 6

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/699,769

FILING DATE: 30-Oct-2000

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

APPLICATION NUMBER: 08/586,039

FILING DATE: 16-JAN-1996

APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DB
TELECOMMUNICATION INFORMATION:
TELEPHONE: (732) 594-4720
TELEFAX: (732) 594-3905
INFORMATION FOR SEQ ID NO: 33:
SEQUENCE CHARACTERISTICS:
LENGTH: 146 amino acids
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 33:
US-09-699-769-33

Query Match 88.6%; Score 101; DB 4; Length 146;
Best Local Similarity 90.0%; Pred. No. 1.1e-09;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTEGEOKSHVVKFMDVY 20
|||||:|||||
DB 27 APTEGEOKAHEVVKFMDVY 46

RESULT 5
US-08-586-039B-31
Sequence 31, Application US/08586039B
Patent No. 6140073
GENERAL INFORMATION:
APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C
TITLE OF INVENTION: SUBUNIT
NUMBER OF SEQUENCES: 49
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
CITY: Rahway
STATE: New Jersey
COUNTRY: USA
ZIP: 07065-0900
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/586,039B
FILING DATE: 16-JAN-1996
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DA
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3905
TELEFAX: (908) 594-4720
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
TYPE: amino acid
STRANDEDNESS: single

TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-586-039B-31

Query Match 88.6%; Score 101; DB 3; Length 190;
Best Local Similarity 90.0%; Pred. No. 1.4e-09;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTEGEOKSHVVKFMDVY 20
|||||:|||||
DB 27 APTEGEOKAHEVVKFMDVY 46

RESULT 6
US-09-699-769-31
Sequence 31, Application US/09699769
Patent No. 6569434
GENERAL INFORMATION:
APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
TITLE OF INVENTION: C SUBUNIT
NUMBER OF SEQUENCES: 49
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
CITY: Rahway
STATE: New Jersey
COUNTRY: USA
ZIP: 07065-0900
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/699,769
FILING DATE: 30-Oct-2000
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/586,039
FILING DATE: 16-JAN-1996
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DB
TELECOMMUNICATION INFORMATION:
TELEPHONE: (732) 594-4720
TELEFAX: (732) 594-3905
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 31:
US-09-699-769-31

Query Match 88.6%; Score 101; DB 4; Length 190;
Best Local Similarity 90.0%; Pred. No. 1.4e-09;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTEGEOKSHVVKFMDVY 20
|||||:|||||
DB 27 APTEGEOKAHEVVKFMDVY 46

RESULT 7

US-08-586-039B-35
; Sequence 35, Application US/08586039B
; Patent No. 6140073
; GENERAL INFORMATION:
; APPLICANT: Bayne, Marvin L.
; APPLICANT: Thomas Jr., Kenneth A.
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C
; TITLE OF INVENTION: SUBUNIT
; NUMBER OF SEQUENCES: 49
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merck & Co., Inc.
; STREET: 126 E. Lincoln Avenue
; CITY: Rahway
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07065-0900
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Microsoft Word 6
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/586.039B
; FILING DATE: 16-JAN-1996
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 08/124,259
; FILING DATE: 20-SEP-1993
; APPLICATION NUMBER: 07/676,436
; FILING DATE: 28-MAR-1991
; ATTORNEY/AGENT INFORMATION:
; NAME: Hand, J. Mark
; REGISTRATION NUMBER: 36,545
; REFERENCE/DOCKET NUMBER: 18361DA
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (908) 594-3905
; TELEFAX: (908) 594-4720
; INFORMATION FOR SEQ ID NO: 35:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 214 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-586-039B-35

Query Match 88.6%; Score 101; DB 3; Length 214;
Best Local Similarity 90.0%; Pred. No. 1.7e-09;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 APTTEGKSHVVKFMDVY 20
Db 27 APTTEGKSHVVKFMDVY 46

RESULT 8
US-09-699-769-35
; Sequence 35, Application US/09699769
; Patent No. 6569434
; GENERAL INFORMATION:
; APPLICANT: Bayne, Marvin L.
; APPLICANT: Thomas Jr., Kenneth A.
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
; TITLE OF INVENTION: C SUBUNIT
; NUMBER OF SEQUENCES: 49
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Merck & Co., Inc.
; STREET: 126 E. Lincoln Avenue
; CITY: Rahway
; STATE: New Jersey
; COUNTRY: USA
; ZIP: 07065-0900
; COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/699,769
FILING DATE: 30-Oct-2000
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/586,039
FILING DATE: 16-JAN-1996
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DB
TELECOMMUNICATION INFORMATION:
TELEPHONE: (732) 594-3905
TELEFAX: (732) 594-4720
INFORMATION FOR SEQ ID NO: 35:
SEQUENCE CHARACTERISTICS:
LENGTH: 214 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 35:
US-09-699-769-35

Query Match 88.6%; Score 101; DB 4; Length 214;
Best Local Similarity 90.0%; Pred. No. 1.7e-09;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 APTTEGKSHVVKFMDVY 20
Db 27 APTTEGKSHVVKFMDVY 46

RESULT 9
US-08-469-427A-15
; Sequence 15, Application US/08469427A
; Patent No. 5607918
; GENERAL INFORMATION:
; APPLICANT: Eriksson, Ulf
; APPLICANT: Olofsson, Birgitta
; APPLICANT: Allitalo, Kari
; APPLICANT: Pajusola, Katri
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND
; TITLE OF INVENTION: DNA CODING THEREFOR
; NUMBER OF SEQUENCES: 17
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Evenson, McKesown, Edwards & Lenahan
; STREET: 1200 G Street, N.W., Suite 700
; CITY: Washington
; STATE: DC
; ZIP: 20005
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/469,427A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/397,651
; FILING DATE: 01-MAR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Evans, Joseph D

REGISTRATION NUMBER: 26,269
REFERENCE/DOCKET NUMBER: 41979cd2
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-8800
TELEFAX: (202) 628-8844
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 189 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-469-427A-15

Query Match 78.5%; Score 89.5; DB 1; Length 189;
Best Local Similarity 95.0%; Pred. No. 1.3e-07;
Matches 19; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

Qy 1 APTTEGQKSHVYKFMVDY 20
Db 27 APTTEGQKSHVYKFMVDY 45

RESULT 10
5194596-11
; Patent No. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR
; NUMBER OF SEQUENCES: 32
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/450,883
; FILING DATE: 14-DEC-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO: 11:
; LENGTH: 21
5194596-11

Query Match 71.1%; Score 81; DB 6; Length 21;
Best Local Similarity 75.0%; Pred. No. 3e-07;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 APTTEGQKSHVYKFMVDY 20
Db 2 APTTEGQKSHVYKFMVDY 21

RESULT 11
5219739-11
; Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGF120 AND
; BVGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGF120 AND BVGF121
; NUMBER OF SEQUENCES: 40
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/559,041
; FILING DATE: 27-JUL-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 450,883
; FILING DATE: 14-DEC-1989
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO: 11:
; LENGTH: 21
5219739-11

Query Match 71.1%; Score 81; DB 6; Length 21;
Best Local Similarity 75.0%; Pred. No. 3e-07;

Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;
Qy 1 APTTEGQKSHVYKFMVDY 20
Db 2 APTTEGQKSHVYKFMVDY 21

RESULT 12
5332671-14
; Patent No. 5332671
; APPLICANT: FERRARA, NAPOLEONE; LEUNG, DAVID W.H.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR AND DNA ENCODING SAME
; NUMBER OF SEQUENCES: 15
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/389,722
; FILING DATE: 04-AUG-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 369,424
; FILING DATE: 21-JUN-1989
; APPLICATION NUMBER: 351,117
; FILING DATE: 12-MAY-1989
; SEQ ID NO: 14:
; LENGTH: 39
5332671-14

Query Match 71.1%; Score 81; DB 6; Length 39;
Best Local Similarity 75.0%; Pred. No. 6.1e-07;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 APTTEGQKSHVYKFMVDY 20
Db 1 APTTEGQKSHVYKFMVDY 20

RESULT 13
5194596-21
; Patent No. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
; C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR
; NUMBER OF SEQUENCES: 32
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/450,883
; FILING DATE: 14-DEC-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO: 21:
; LENGTH: 41
5194596-21

Query Match 71.1%; Score 81; DB 6; Length 41;
Best Local Similarity 75.0%; Pred. No. 6.5e-07;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 APTTEGQKSHVYKFMVDY 20
Db 1 APTTEGQKSHVYKFMVDY 20

RESULT 14
5219739-26
; Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
; JOHN C.; MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGF120 AND
; BVGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGF120 AND BVGF121
; NUMBER OF SEQUENCES: 40
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/559,041
5219739-26

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;      FILING DATE: 27-JUL-1990
;      PRIOR APPLICATION DATA:
;      APPLICATION NUMBER: 450,863
;      FILING DATE: 14-DEC-1989
;      APPLICATION NUMBER: 387,545
;      FILING DATE: 27-JUL-1989
;      SEQ ID NO: 26
;      LENGTH: 41
5219739-26

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Query Match	71.1%;	Score 81;	DB 6;	Length 41;
Best Local Similarity	75.0%;	Pred. No. 6.5e-07;		
Matches 15; Conservative	1;	Mismatches 4;	Indels 0;	Gaps 0;

Qy 1 APTTEGEQKSHEVIKMDVY 20
 ||||| : |||||
Db 1 APMAEGGQKPHEVVKFMDVY 20

RESULT 15
 5194596-9
 Patent No. 5194596
 APPLICANT: FISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
 C.; MITCHELL, RICHARD L.
 TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
 GROWTH FACTOR
 NUMBER OF SEQUENCES: 32
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/07/450,883
 FILING DATE: 14-DEC-1989
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: 387,545
 FILING DATE: 27-JUL-1989
 SEQ ID NO.: 9:
 LENGTH: 120
 5194596-9

Query Match	71.1%;	Score 81;	DB 6;	Length 120;
Best Local Similarity	75.0%;	Pred. No. 2.2e-06;		
Matches 15;	Conservative 1;	Mismatches 4;	Indels 0;	Gaps 0;

QY 1 APTTEGEQKSHEVIKFM^{DV} 20
|| || || ||| : ||||| |
Db 1 APMAEGGQKPHEVVKFMD^{VY} 20

Search completed: January 30, 2004, 11:47:51
Job time : 8.93846 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:44:49 ; Search time 20.7846 Seconds
(without alignments)
209.978 Million cell updates/sec

Title: US-09-266-543-5

Sequence: 1 APTTEGEQKSHVIFKMDVYC 21

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Gapop 10.0 , Gapext 0.5

Searched: 789580 seqs, 207824079 residues

Total number of hits satisfying chosen parameters: 789580

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

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13: /cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep.*
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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	105	92.1	214	9	US-09-349-954A-22
2	105	92.1	214	10	US-09-907-007-22
3	101	88.6	190	12	US-09-921-143-7
4	101	88.6	190	15	US-10-071-370A-2
5	81	71.1	39	15	US-10-166-941-5
6	81	71.1	39	15	US-10-150-046-5
7	81	71.1	39	15	US-10-177-485-5
8	81	71.1	39	15	US-10-155-492-5
9	81	71.1	89	15	US-10-166-941-4
10	81	71.1	89	15	US-10-150-046-4
11	81	71.1	190	15	US-10-177-485-4
12	81	71.1	190	15	US-10-155-492-4
13	80	70.2	25	10	US-09-998-831-11
14	80	70.2	25	10	US-09-998-831-11
15	80	70.2	25	12	US-10-373-561-11

16	80	70.2	25	12	US-10-376-194-1	Sequence 1, Appli
17	80	70.2	25	12	US-10-375-716-30	Sequence 30, Appli
18	68	59.6	14	15	US-10-071-370A-7	Sequence 7, Appli
19	65.5	57.5	26	9	US-09-738-970-2	Sequence 2, Appli
20	65.5	57.5	26	10	US-09-998-831-10	Sequence 10, Appli
21	65.5	57.5	26	12	US-10-373-561-10	Sequence 10, Appli
22	65.5	57.5	26	12	US-10-376-194-2	Sequence 2, Appli
23	65.5	57.5	26	12	US-10-375-716-11	Sequence 31, Appli
24	65.5	57.5	110	9	US-09-832-270-17	Sequence 17, Appli
25	65.5	57.5	110	12	US-10-342-371-17	Sequence 17, Appli
26	65.5	57.5	110	12	US-10-352-931-10	Sequence 10, Appli
27	65.5	57.5	110	12	US-10-392-931-11	Sequence 11, Appli
28	65.5	57.5	110	12	US-10-418-529-10	Sequence 10, Appli
29	65.5	57.5	110	12	US-10-418-529-11	Sequence 11, Appli
30	65.5	57.5	110	14	US-10-083-817-11	Sequence 11, Appli
31	65.5	57.5	110	15	US-10-268-447-11	Sequence 11, Appli
32	65.5	57.5	121	11	US-09-832-355A-1	Sequence 1, Appli
33	65.5	57.5	141	15	US-10-298-794-2	Sequence 2, Appli
34	65.5	57.5	145	12	US-10-319-828-2	Sequence 2, Appli
35	65.5	57.5	145	12	US-10-392-931-4	Sequence 4, Appli
36	65.5	57.5	145	12	US-10-418-529-4	Sequence 4, Appli
37	65.5	57.5	145	14	US-10-083-817-2	Sequence 2, Appli
38	65.5	57.5	145	15	US-10-268-447-4	Sequence 4, Appli
39	65.5	57.5	147	12	US-10-346-802-4	Sequence 4, Appli
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41	65.5	57.5	147	12	US-10-418-529-2	Sequence 2, Appli
42	65.5	57.5	147	14	US-10-083-817-1	Sequence 1, Appli
43	65.5	57.5	147	15	US-10-268-447-2	Sequence 2, Appli
44	65.5	57.5	150	11	US-09-832-355A-61	Sequence 61, Appli
45	65.5	57.5	154	11	US-09-832-355A-59	Sequence 59, Appli

ALIGNMENTS

RESULT 1
US-09-349-954A-22
Sequence 22, Application US/09349954A
Patent No. US20020019027A1
GENERAL INFORMATION:
APPLICANT: Hayward, Nicholas K.
APPLICANT: Weber, Gunther
APPLICANT: Grimmond, Sean
APPLICANT: No. US20020019027A1denekjold, Magnus
TITLE OF INVENTION: A NOVEL GROWTH FACTOR AND A GENETIC SEQUENCE ENCODING
FILE REFERENCE: Dav. Col. Cave
CURRENT APPLICATION NUMBER: US/09/349,954A
PRIOR APPLICATION NUMBER: 1999-07-08
PRIOR FILING DATE: 1996-02-22
NUMBER OF SEQ ID NOS: 22
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 22
LENGTH: 214
TYPE: PRT
ORGANISM: mVEGF188
US-09-349-954A-22

Query Match
Best Local Similarity 92.1%; Score 105; DB 9; Length 214;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTTEGEQKSHVIFKMDVY 20
DB 27 APTTEGEQKSHVIFKMDVY 46

RESULT 2
US-09-907-007-22
Sequence 22, Application US/09907007
Patent No. US20020142395A1

```
; GENERAL INFORMATION:
; APPLICANT: Hayward, Nicholas K.
; APPLICANT: Weber, Gunther
; APPLICANT: Grimmond, Sean
; APPLICANT: No. US20020142395aldenskfold, Magnus
; APPLICANT: Larsson, Catharina
; TITLE OF INVENTION: A NOVEL GROWTH FACTOR AND A GENETIC SEQUENCE ENCODING
; FILE REFERENCE: SAME
; CURRENT APPLICATION NUMBER: US/09/907,007
; CURRENT FILING DATE: 2001-07-17
; PRIOR APPLICATION NUMBER: 08/765,588
; PRIOR FILING DATE: 1996-02-22
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: Patent In Ver. 2.1
; SEQ ID NO 22
; LENGTH: 214
; TYPE: PRT
; ORGANISM: mVEGF188
US-09-907-007-22

Query Match      92.1%; Score 105; DB 10; Length 214;
Best Local Similarity 100.0%; Pred. No. 4.4e-09;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 APTTEGEOKSHVIFKMDY 20
DB      27 APTTEGEOKSHVIFKMDY 46

RESULT 3
US-09-921-143-7
; Sequence 7, Application US/09921143
; Publication No. US20030215921A1
; GENERAL INFORMATION:
; APPLICANT: Coleman, Timothy
; TITLE OF INVENTION: Vascular Endothelial Growth Factor-2
; FILE REFERENCE: P0112P6
; CURRENT APPLICATION NUMBER: US/09/921,143
; CURRENT FILING DATE: 2001-08-03
; PRIOR APPLICATION NUMBER: 60/223,276
; PRIOR FILING DATE: 2000-08-04
; NUMBER OF SEQ ID NOS: 36
; SOFTWARE: Patent In version 3.0
; SEQ ID NO 7
; LENGTH: 190
; TYPE: PRT
; ORGANISM: homo sapiens
US-09-921-143-7

Query Match      88.6%; Score 101; DB 12; Length 190;
Best Local Similarity 90.0%; Pred. No. 1.7e-08;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY      1 APTTEGEOKSHVIFKMDY 20
DB      27 APTTEGEOKSHVIFKMDY 46

RESULT 4
US-10-071-370A-2
; Sequence 2, Application US/10071370A
; Publication No. US20030045471A1
; GENERAL INFORMATION:
; APPLICANT: Bayne, Marvin L.
; APPLICANT: Conn, Gregory L.
; APPLICANT: Thomas, Jr., Kenneth A.
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
; FILE REFERENCE: 18199CB
; CURRENT APPLICATION NUMBER: US/10/071,370A
; CURRENT FILING DATE: 2002-02-08
; PRIOR APPLICATION NUMBER: 09/326,879
```

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; PRIOR FILING DATE: 1999-06-07
; PRIOR APPLICATION NUMBER: 09/038,199
; PRIOR FILING DATE: 1998-03-10
; PRIOR APPLICATION NUMBER: 08/299,185
; PRIOR FILING DATE: 1994-08-31
; PRIOR APPLICATION NUMBER: 08/000,834
; PRIOR FILING DATE: 1993-01-05
; PRIOR APPLICATION NUMBER: 07/586,638
; PRIOR FILING DATE: 1990-09-21
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 190
; TYPE: PRT
; ORGANISM: rat
US-10-071-370A-2

Query Match      88.6%; Score 101; DB 15; Length 190;
Best Local Similarity 90.0%; Pred. No. 1.7e-08;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY      1 APTTEGEOKSHVIFKMDY 20
DB      27 APTTEGEOKSHVIFKMDY 46

RESULT 5
US-10-166-941-5
; Sequence 5, Application US/10166941
; Publication No. US20030092617A1
; GENERAL INFORMATION:
; APPLICANT: Ferrara, Napoleone
; APPLICANT: Leung, David Wai-Hung
; TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
; FILE REFERENCE: P0586C8
; CURRENT APPLICATION NUMBER: US/10/166,941
; CURRENT FILING DATE: 2002-06-10
; PRIOR APPLICATION NUMBER: US 08/904,334
; PRIOR FILING DATE: 1997-07-31
; PRIOR APPLICATION NUMBER: US 08/561,560
; PRIOR FILING DATE: 1995-11-22
; PRIOR APPLICATION NUMBER: US 08/306,213
; PRIOR FILING DATE: 1994-09-14
; PRIOR APPLICATION NUMBER: US 08/047,756
; PRIOR FILING DATE: 1993-04-15
; PRIOR APPLICATION NUMBER: US 07/351,117
; PRIOR FILING DATE: 1989-05-12
; NUMBER OF SEQ ID NOS: 9
; SEQ ID NO 5
; LENGTH: 39
; TYPE: PRT
; ORGANISM: Bovine
US-10-166-941-5

Query Match      71.1%; Score 81; DB 15; Length 39;
Best Local Similarity 75.0%; Pred. No. 5.5e-06;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY      1 APTTEGEOKSHVIFKMDY 20
DB      1 APMAEGGCKPHEVVKFMDY 20

RESULT 6
US-10-150-046-5
; Sequence 5, Application US/10150046
; Publication No. US20030100072A1
; GENERAL INFORMATION:
; APPLICANT: Ferrara, Napoleone
; APPLICANT: Leung, David Wai-Hung
; TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
; FILE REFERENCE: and DNA Encoding Same
```


ADDRESSEE: Arnold, White & Durkee
STREET: P.O. Box 4433
CITY: Houston
STATE: Texas
COUNTRY: United States of America
ZIP: 77210
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS/ASCII
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/738,970
FILING DATE:
CLASSIFICATION:
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: 09/207,277
FILING DATE:
CLASSIFICATION:
APPLICATION NUMBER: SN 07/846,349
FILING DATE: March 5, 1992
CLASSIFICATION:
ATTORNEY/AGENT INFORMATION:
NAME: Parker, David L.
REGISTRATION NUMBER: 32,165
REFERENCE/DOCKET NUMBER: UTSD:430/PAR
TELECOMMUNICATION INFORMATION:
TELEPHONE: (512) 418-3000
TELEFAX: (713) 789-2679
TELEX: 79-0924
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: Peptide
US-09-738-970-1

Query Match 70.2%; Score 80; DB 9; Length 25;
Best Local Similarity 75.0%; Pred. No. 4.8e-06;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 APTTEGEOKSHVIRKFMVY 20
Db 1 APMAEGEOKPREVVKFMVY 20

RESULT 14
US-09-998-831-11
Sequence 11, Application US/09998831
Patent No. US20020119153A1
GENERAL INFORMATION:
APPLICANT: Phillip E. Thorpe
APPLICANT: Rolf A. Brekken
TITLE OF INVENTION: ANTIBODY CONJUGATE COMPOSITIONS FOR SELECTIVELY
INHIBITING VEGF
FILE REFERENCE: 4001.002584
CURRENT APPLICATION NUMBER: US/09/998,831
CURRENT FILING DATE: 2001-11-30
PRIOR APPLICATION NUMBER: 09/561,108
PRIOR FILING DATE: 2000-04-28
NUMBER OF SEQ ID NOS: 44
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 11
LENGTH: 25
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: SYNTHETIC
US-09-998-831-11

Query Match 70.2%; Score 80; DB 10; Length 25;
Best Local Similarity 75.0%; Pred. No. 4.8e-06;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 APTTEGEOKSHVIRKFMVY 20
Db 1 APMAEGEOKPREVVKFMVY 20

RESULT 15
US-10-373-561-11
Sequence 11, Application US/10373561
Publication No. US20030175276A1
GENERAL INFORMATION:
APPLICANT: Phillip E. Thorpe
APPLICANT: Rolf A. Brekken
TITLE OF INVENTION: ANTIBODY METHODS FOR SELECTIVELY INHIBITING VEGF
FILE REFERENCE: 4001.002582
CURRENT APPLICATION NUMBER: US/10/373,561
CURRENT FILING DATE: 2003-02-24
PRIOR APPLICATION NUMBER: US/09/561,499
PRIOR FILING DATE: 2000-04-28
PRIOR APPLICATION NUMBER: 60/131,432
PRIOR FILING DATE: 1999-04-28
NUMBER OF SEQ ID NOS: 44
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 11
LENGTH: 25
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: SYNTHETIC
US-10-373-561-11

Query Match 70.2%; Score 80; DB 12; Length 25;
Best Local Similarity 75.0%; Pred. No. 4.8e-06;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 APTTEGEOKSHVIRKFMVY 20
Db 1 APMAEGEOKPREVVKFMVY 20

Search completed: January 30, 2004, 12:15:01
Job time : 20.9096 Secs

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OM protein - protein search, using SW model

Run on: January 30, 2004, 11:34:23 : Search time 9.04615 Seconds
(without alignments)
223.249 Million cell updates/sec

Title: US-09-266-543-5

Perfect score: 114
Sequence: 1 APTTEGEQKSHVIFKFMVYC 21

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Listing first 45 summaries

Database :
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	105	92.1	190	2 B44881	vascular endotheli
2	105	92.1	214	2 A44881	vascular endotheli
3	101	86.6	190	2 A35987	glioma-derived vas
4	85	74.6	190	2 S52130	vascular endotheli
5	81	71.1	120	2 A33787	vascular endotheli
6	81	71.1	190	2 B40080	vascular endotheli
7	80	70.2	36	2 A60706	vascular endotheli
8	79	69.3	146	2 S57956	ovine vascular end
9	65.5	57.5	232	2 A41551	vascular endotheli
10	47.5	41.7	360	2 T20686	hypothetical prote
11	46	40.4	436	2 T00756	hypothetical prote
12	46	40.4	2272	2 T18572	hypothetical prote
13	44	38.6	113	2 G96942	gag, pol and env p
14	44	38.6	172	2 C95090	hypothetical prote
15	44	38.6	172	2 P97957	16S rRNA processin
16	44	38.6	180	2 T34851	probable secreted
17	44	38.6	248	2 AC1919	hypothetical prote
18	44	38.6	405	2 T40193	hypothetical prote
19	44	38.6	1131	2 A49393	activator 1 large
20	43	37.7	278	2 A81266	probable biotin sy
21	43	37.7	285	2 AE3112	panthothenate synth
22	43	37.7	332	2 E69312	nitrate reductase
23	43	37.7	360	2 T08673	hypothetical prote
24	43	37.7	453	2 A69888	H+-symporter homol
25	43	37.7	574	2 S50800	probable membrane
26	43	37.7	646	2 G84854	hypothetical prote
27	43	37.7	1166	2 P90247	reverse gyrase (to
28	43	37.7	1166	2 T29099	reverse gyrase - S
29	42.5	37.3	314	2 T24515	hypothetical prote

30	42.5	37.3	896	2 S48761	trehalose-phosphat
31	42.5	37.3	1265	2 T06916	DNA-directed RNA p
32	42	36.8	84	2 S35758	ribosomal protein
33	42	36.8	151	2 H84425	hypothetical prote
34	42	36.8	365	2 A71005	probable cell divi
35	42	36.8	379	2 I40873	serine proteinase
36	42	36.8	485	2 P96526	hypothetical prote
37	42	36.8	610	2 T20735	hypothetical prote
38	42	36.8	888	2 S50801	AMP deaminase homo
39	42	36.8	917	2 B96699	probable lipoxigen
40	42	36.8	3268	2 S69625	hypothetical prote
41	41.5	36.4	346	2 T19676	hypothetical prote
42	41	36.0	84	1 R3RT27	ribosomal protein
43	41	36.0	315	2 H82062	sulfate adenylate
44	41	36.0	318	2 A05557	cytochrome o ubiqu
45	41	36.0	332	1 A55897	prolactin-induced

ALIGNMENTS

RESULT 1
B44881
vascular endothelial growth factor-1 precursor - mouse
C:Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 05-Nov-1999
C:Accession: B44881, A43351, A61029
R:Bretter, G.; Albrecht, U.; Sterrer, S.; Ritsau, W.
Development 114, 521-532, 1992
A>Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
A:Reference number: A44881, MUID:92274860, PMID:1592003
A:Accession: B44881
A:Molecule type: mRNA
A:Residues: 1-190

A:Cross-references: GB:S38083, NID:G249858, PID:AA62253.1, PID:G249859
A:Experimental source: embryo
A>Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBIPI:107623)
R:Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
J. Biol. Chem. 267, 16317-16322, 1992
A>Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti
A:Reference number: A43351, MUID:92355593, PMID:1644816
A:Accession: A43351
A:Molecule type: mRNA
A:Residues: 1-116, 'ER', 119-190 <CLA>
A:Cross-references: GB:M95200, NID:G202350, PID:AAA40547.1, PID:G202351
A>Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBIPI:110675)
R:Rosenblatt, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J.
Growth Factors 4, 53-59, 1990
A>Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial g
A:Reference number: A61029, MUID:91197543, PMID:2085441
A:Accession: A61029
A:Molecule type: protein
A:Keywords: 27-38 <ROS>
C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mit

Query Match
Best Local Similarity 92.1%; Score 105; DB 2; Length 190;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 APTTEGEQKSHVIFKFMVYC 20
Db 27 APTTEGEQKSHVIFKFMVYC 46

RESULT 2
A44881
vascular endothelial growth factor-3 precursor - mouse
N:Contains: vascular endothelial growth factor-2; vascular permeability factor
C:Species: Mus musculus (house mouse)
C:Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 08-Oct-1999
C:Accession: A44881, A44881, A60932, S52136
R:Bretter, G.; Albrecht, U.; Sterrer, S.; Ritsau, W.
Development 114, 521-532, 1992

R. Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochem. Biophys. Acta 1260, 235-238, 1995
A>Title: Nucleotide sequence and expression of the porcine vascular endothelial growth factor
A:Reference number: S52130; PMID:95143284; PMID:7641203
A:Accession: S52130
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-190 <SHA>
A:Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560

Query Match 74.6%; Score 85; DB 2; Length 190;
Best Local Similarity 75.0%; Pred. No. 2,3e-06;
Matches 15; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

OY 1 APTTEGQKSHVYIKFMDVY 20
|||:||||:||||:||||:||||:
27 APMAGDQKPEHVVKFMDVY 46

RESULT 5

Vascular endothelial growth factor (version 1) - bovine
C:Species: Bos primigenius taurus (cattle)
C>Date: 16-Mar-1990 #sequence_rev16-Mar-1990 #ext_change 05-Nov-1999
C:Accession: A33787
R:Titser, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Cripps
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A>Title: Vascular endothelial growth factor: a new member of the platelet-derived growth factor
A:Reference number: A33787; PMID:90121225; PMID:2610687
A:Accession: A33787
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-120 <TIS>
A:Cross-references: GB:N33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C:Keywords: alternative splicing

Query Match 71.1%; Score 81; DB 2; Length 120;
Best Local Similarity 75.0%; Pred. No. 6.4e-06;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

OY 1 APTTEGQKSHVYIKFMDVY 20
|||:||||:||||:||||:||||:
1 APMAGDQKPEHVVKFMDVY 20

RESULT 6

Vascular endothelial growth factor precursor (version 2) - bovine
B40080
C:Species: Bos primigenius taurus (cattle)
C>Date: 30-Jun-1992 #sequence_rev30-Jun-1992 #ext_change 05-Nov-1999
C:Accession: B40080; B33787; A33255
R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A>Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
A:Reference number: A40080; PMID:90069608; PMID:2479986
A:Accession: B40080
A:Molecule type: mRNA
A:Residues: 1-190 <EU>
A:Cross-references: GB:M32976; NID:g163006; PIDN:AAA30502.1; PID:g163007
R:Titser, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Cripps
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A>Title: Vascular endothelial growth factor: a new member of the platelet-derived growth factor
A:Reference number: A33787; PMID:90121225; PMID:2610687
A:Accession: B33787
A:Molecule type: mRNA
A:Residues: 27-190 <TIS>
A:Cross-references: GB:M31836; NID:g163808; PIDN:AAA30804.1; PID:g163809
R:Perreira, N.; Henzel, W.J.
Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A>Title: Pituitary follicular cells secrete a novel heparin-binding growth factor specific
A:Reference number: A33255; PMID:89286596; PMID:2735925
A:Accession: A33255
A:Molecule type: protein


```

A:Reference number: A34492; MUID:90062112; PMID:2584205
A:Accession: A34492
A:Molecule type: protein
A:Residues: 27-36/43-49,'R',72-76,'Q',78-81,59-71 <CON>
C:Comment: The most common of several alternatively spliced forms is VEGF 165.
C:Genetics:
A:Gene: GDB:VEGF
A:Cross-references: GDB:132244; OMIM:192240
A:Map position: 6p21-6p12
C:Function:
A:Description: promotes fluid and protein leakage from blood vessels
C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular precursor
F:1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <V206>
F:1-165,189-232/Product: vascular endothelial growth factor 189 precursor #status predicted
F:1-141,227-232/Product: vascular endothelial growth factor 121 precursor #status predicted
F:1-26/Domain: signal sequence #status (covalent) #status predicted
F:101/Binding site: carbohydrate (Asn)
Query Match 57.5%; Score 65.5; DB 2; Length 232;
Best Local Similarity 66.7%; Pred. No. 0.0047;
Matches 14; Conservative 1; Mismatches 5; Indels 1; Gaps 1;

QY 1 APTTE-GEOKSHEVTKFMDVY 20
||| ||| ||| ||| |||
Db 27 APMAEGGQNHHEVYKFMVDVY 47

RESULT 10
T20686
hypotheical protein F10A3.13 - Caenorhabditis elegans
C:Species: Caenorhabditis elegans
C:Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
A:Accession: T20686
R:Lloyd, C.
submitted to the EMBL Data Library, March 1997
A:Reference number: Z19309
A:Accession: T20686
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-360 <W11>
A:Cross-references: EMBL:Z92829; PIDN:CAB07349.1; GSPDB:GN00023; CESP:F10A3.13
A:Experimental source: clone F10A3
C:Genetics:
A:Gene: CESP:F10A3.13
A:Map position: 5
A:Introns: 66/3; 96/1

Query Match 41.7%; Score 47.5; DB 2; Length 360;
Best Local Similarity 62.5%; Pred. No. 7.1;
Matches 10; Conservative 2; Mismatches 3; Indels 1; Gaps 1;

QY 7 EOKSHEVTKFMDVY 21
||| ||| ||| ||| |||
Db 160 EMKDEEVIPEFLDYVC 175

RESULT 11
T00756
hypotheical protein At2g40920 (imported) - Arabidopsis thaliana
N:Alternate names: hypotheical protein T20B5.12
C:Species: Arabidopsis thaliana (mouse-ear cress)
C:Date: 12-Feb-1999 #sequence_revision 12-Feb-1999 #text_change 16-Feb-2001
A:Accession: T00756; E84835
R:Rounsley, S.D.; Lin, X.; Ketchum, K.A.; Crosby, M.L.; Brandon, R.C.; Sykes, S.M.; Kaul
submitted to the EMBL Data Library, November 1997
A:Description: Arabidopsis thaliana chromosome II BAC T20B5 genomic sequence.
A:Reference number: Z14159
A:Accession: T00756
A:Status: translated from GB/EMBL/DBJ
A:Molecule type: DNA
A:Residues: 1-436 <ROU>
A:Cross-references: EMBL:AC002409; NID:g2623294; PID:g2623306
A:Experimental source: cultivar Columbia

```

R.Flin, X.; Kall's, S.; Rounsley, S.D.; Shea, T.P.; Bental, M.T.; Town, C.D.; Fujii, C.Y.;
 M.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; Vanaken, S.E.; Umayam, L.; Tallon, E.;
 euss, D.; Niernan, W.C.; White, O.; Eisen, J.A.; Salzberg, S.L.; Fraser, C.M.; Venter, J.
 Nature 402, 761-768, 1999
 A:Title: Sequence and analysis of chromosome 2 of the plant *Arabidopsis thaliana*.
 A:Reference number: AB44420; MUID:20083487; PMID:10617197
 A:Accession: E84835
 A:Status: preliminary
 A:Molecule type: DNA
 A:Residues: 1-436 <STO>
 A:Cross-references: GB:AE002093; NID:g2623306; PIDN:AAB86452.1; GSPDB:GN00139
 C:Genetics:
 A:Gene: T20B5.12; At2g40920
 A:Map position: 2
 A:Introns: 35/3

 Query Match 40.4%; Score 46; DB 2; Length 436;
 Best Local Similarity 47.1%; Pred. No. 15;
 Matches 8; Conservative 4; Mismatches 5; Indels 0; Gaps 0;

 QY 1 APTEGEQKSHEVIKFM 17
 ||:|||||:|:|:
 Db 253 APTEGRSTGSGVVRM 269

```

RESULT 12
118572
gag, pol and env protein precursor - Caenorhabditis elegans
C/Species: Caenorhabditis elegans
C/Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
C/Accession: 118572
R:Britten, R.
submitted to the EMBL Data Library, September 1994
A/Reference number: Z18980
A/Accession: 118572
A/Status: preliminary; translated from GB/EMBL/DBJ
A/Molecule type: DNA
A/Residues: 1-2272 <WIL>
A/Cross-references: EMBL:U15406; PIDD:AA50456.1

Query Match      40.4%; Score 46; DB 2; Length 2272;
Beat Local Similarity 53.3%; Pred. No. 90;
Matches 8; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY      7 EOKSHVIEKFDVYC 21
|||:::|::|
db      272 EOKHONIQIMDTRC 286

```

```

hypochemical protein CAC0350 [imported] - Clostridium acetobutylicum
C:Species: Clostridium acetobutylicum
C:Date: 14-Sep-2001 #sequence_revision 14-Sep-2001 #text_change 14-Sep-2001
C:Accession: G96992
R:Noiling, J.; Bretton, G.; Omelchenko, M.V.; Markarova, K.S.; Zeng, Q.; Gibson, R.; Lee,
J.; Daly, M.J.; Bennett, G.N.; Koonin, E.V.; Smith, D.R.
J. Bacteriol. 183, 4823-4838, 2001
A>Title: Genome Sequence and Comparative Analysis of the Solvent-Producing Bacterium C12
A:Reference number: A96900; MUID:21359325; PMID:21359325
A:Accession: G96942
A>Status: preliminary
A:Molecule type: DNA
A:Residues: 1-113 <KUR>
A:Cross-references: GB:AE001437; PIDN:AAK78330.1; PID:gl5023196; GSPDB:GN00168
A:Experimental source: Clostridium acetobutylicum ATCC824
C/Genetics:
A:Gene: CAC0350

Query Match      38.6%; Score 44; DB 2; Length 113;
Best Local Similarity 50.0%; Pred. No. 7.7;
Matches 7; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

```



```
QY      7 EQKSHEVIKEMDVY 20
        : | | : | | | |
Db      44 DDKGFEIVMFMDVY 57
```

RESULT 14

16S rRNA processing protein RimM [imported] - Streptococcus pneumoniae (strain TIGR4)
C/Species: Streptococcus pneumoniae
C/Date: 03-Aug-2001 #sequence_revision 03-Aug-2001 #text_change 01-Mar-2002
C/Accession: C95090
R/Retelling: H.; Nelson, K.E.; Paulsen, I.T.; Eisen, J.A.; Read, T.D.; Peterson, S.; Heid
son, J.D.; Umayam, L.A.; White, O.; Salzberg, S.L.; Lewis, M.R.; Radune, D.; Holtapple,
nson, T.; Hickey, E.K.; Holt, I.E.
Science 293, 498-506, 2001
A/Authors: Loftus, B.J.; Yang, F.; Smith, H.O.; Venter, J.C.; Dougherty, B.A.; Morrison,
A./Title: Complete Genome Sequence of a Virulent Isolate of Streptococcus pneumoniae.
A./Reference number: A95000; MUID:21357209; PMID:11463916
A/Accession: C95090
A/Status: preliminary
A/Molecule type: DNA
A/Residues: 1-172 <KOR>
A/Cross-references: GB:AE005672; PIDN:AAK74916.1; PID:G14972254; GSPDB:GN00164; TIGR:SP4
A./Experimental source: strain TIGR4
C/Genetics:
A/Gene: SP0778
C/Superfamily: 16S rRNA processing protein PA3744

Query Match	38.6%	Score 44;	DB-2;	Length 172;	.
Best Local Similarity	50.0%;	Pred. No. 12;			
Matches	7;	Conservative	5;	Mismatches	2;
				Indels	0;
				Gaps	0

```
Qy      7 EQKSHEVIKFMdVY 20
        :||: :||| | :|
Db      58 KQKNFDIIFKdMY 71
```

RESULT 15

16S rRNA processing protein RlmM [imported] - Streptococcus pneumoniae (strain R6)
C/Species: Streptococcus pneumoniae
C/Date: 22-Oct-2001 #sequence_revision 22-Oct-2001 #text_change 01-Mar-2002
C/Accession: F97957
R/Hoskins, J.A.; Alborn Jr., W.; Arnold, J.; Blaszczyk, L.; Burgett, S.; Dehoff, B.S.; E
y, R.; LeBlanc, D.J.; Lee, L.N.; Lefkowitz, E.J.; Lu, J.; Matsushima, P.; McAhren, S.; M
y, P.; Sun, P.M.; Winkler, M.E.
J. Bacteriol. 183, 5709-5717, 2001
A/Authors: Yang, Y.; Young-Bellido, M.; Zhao, G.; Zook, C.; Balz, R.H.; Jaskunas, S.R.
A/Title: Genome of the Bacterium Streptococcus pneumoniae Strain R6.
A/Reference number: A97872; MUID:21429245; PMID:11544234
A/Accession: F97957
A/Status: preliminary
A/Molecule type: DNA
A/Residues: 1-172 <KRR>
A/Cross-references: GB:AE007317; PIDN:AAK99490.1; PID:g15458275; GSPDB:GN00174
C/Genetics:
A/Genes: rlmM
C/Superfamily: 16S rRNA processing protein PA3744

Query Match	38.6%	Score 44;	DB 2;	Length 172;
Best Local Similarity	50.0%;	Pred. No. 12;		
Matches	7;	Conservative	5;	Mismatches 2;
			Indels	0;
			Gaps	0;

```
Qy      7  EQKSHEVIKFMdVY  20
         :||: :||| | :|
Db      58 KQKNFDI IKFKDmY  71
```


GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:48 ; Search time 4.84615 Seconds
(without alignments)
203.782 Million cell updates/sec

Title: US-09-266-543-5

Perfect score: 114

Sequence: 1 APTEGQKSHVEIKMDVYC 21

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_41.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	105	92.1	214	1	VEGA_MOUSE
2	101	88.6	214	1	VEGA_RAT
3	90	78.9	190	1	VEGA_MESAU
4	85	74.6	190	1	VEGA_HORSE
5	85	74.6	190	1	VEGA_PIG
6	81	71.1	190	1	VEGA_BOVIN
7	79	69.3	146	1	VEGA_SHEEP
8	76	66.7	144	1	VEGA_CANFA
9	74	64.9	164	1	VEGA_CAVPO
10	65.5	57.5	232	1	VEGA_HUMAN
11	58	50.9	216	1	VEGA_CHICK
12	46	40.4	2186	1	YLS2_CAMEL
13	44	38.6	172	1	RIMM_STRPN
14	44	38.6	886	1	HS97_STRPN
15	44	38.6	1131	1	RFC1_MOUSE
16	43	37.7	285	1	PANC_LISMO
17	43	37.7	574	1	YNAJ_BACSU
18	43	37.7	574	1	YUHI_YEAST
19	42.5	37.3	896	1	TPS2_YEAST
20	42.5	37.3	1265	1	RPOD_CVAPA
21	42	36.8	83	1	RS27_XENLA
22	42	36.8	137	1	NXK1_CAMEL
23	42	36.8	151	1	M329_ARATH
24	42	36.8	172	1	RIMM_STRP8
25	42	36.8	172	1	RIMM_STRPY
26	42	36.8	273	1	FPG_STRMU
27	42	36.8	365	1	FT23_PYRHO
28	42	36.8	888	1	YJHO_YEAST
29	42	36.8	2542	1	TIN2_HUMAN
30	41	36.0	83	1	RS27_HUMAN
31	41	36.0	302	1	CYSD_VIBCH
32	41	36.0	398	1	HKL1_ARATH
33	41	36.0	472	1	PHR_ECOLI

34	41	36.0	499	1	YDKA_SCHPO
35	41	36.0	689	1	KP1B_RAT
36	41	36.0	868	1	TOP1_PSBAB
37	40.5	35.5	298	1	YN05_YEAST
38	40	35.1	83	1	RS27_SCHPO
39	40	35.1	322	1	LIPA_RHIME
40	40	35.1	335	1	Y780_METUA
41	40	35.1	394	1	EF7U_MYCGA
42	40	35.1	411	1	RAPS_CHICK
43	40	35.1	432	1	ENO_EYTHR
44	40	35.1	440	1	GSA_CHLPP
45	40	35.1	524	1	SAP_HUMAN

ALIGNMENTS

RESULT 1	VEGA_MOUSE	STANDARD;	PRT;	214 AA.
AC	000731;			
DT	01-APR-1993 (Rel. 25, Created)			
DT	01-OCT-1996 (Rel. 34, Last sequence update)			
DT	15-SEP-2003 (Rel. 42, Last annotation update)			
DE	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).			
CN	VEGF OR VEGFA.			
OS	Mus musculus (Mouse).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.			
OX	NCBI_TaxId=10090;			
RN	[1]			
RP	SEQUENCE FROM N.A. (ISOROMS VEGF-1; VEGF-2 AND VEGF-3).			
RX	MEDLINE=92274860; PubMed=1592003;			
RA	Breier G., Albrecht U., Steier S., Risau W.;			
RT	"Expression of vascular endothelial growth factor during embryonic angiogenesis and endothelial cell differentiation."			
RT	Development 114:521-532(1992).			
RL	[2]			
RP	SEQUENCE FROM N.A. (ISOROM VEGF-1).			
RX	MEDLINE=92355593; PubMed=1644816;			
RA	Claflay K.P., Wilkison W.O., Spiegelman B.M.;			
RT	"Vascular endothelial growth factor. Regulation by cell differentiation and activated second messenger pathways."			
RT	J. Biol. Chem. 267:16317-16322(1992).			
RN	[3]			
RP	SEQUENCE OF 1-3 FROM N.A.			
RX	MEDLINE=96216498; PubMed=8632007;			
RA	Shima D.T., Kuroki M., Deutsch U., Ng Y., Adams A.P., D'Amore P.A.;			
RT	"The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional regulatory sequences."			
RT	J. Biol. Chem. 271:3877-3883(1996).			
RL	[4]			
RP	FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (by similarity).			
CC	-1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (by similarity).			
CC	-1- SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3 remains cell-surface associated unless released by heparin.			
CC	-1- ALTERNATIVE PRODUCTS:			
CC	Event=Alternative splicing; Named isoforms=3;			
CC	Name=VEGF-3; Synonyms=VEGF188;			
CC	Isoid=000731-1; Sequence=Displayed;			
CC	Name=VEGF-1; Synonyms=VEGF164;			
CC	Isoid=000731-2; Sequence=VSP_004626, VSP_004627;			
CC	Name=VEGF-2; Synonyms=VEGF120;			
CC	Isoid=000731-3; Sequence=VSP_004628;			
CC	-1- TISSUE SPECIFICITY: In developing embryos, expressed mainly in the			

choroid plexus, paraventricular neuroepithelium, placenta and kidney glomeruli. Also found in bronchial epithelium, adrenal gland and in seminiferous tubules of testis. High expression of VEGF continues in kidney glomeruli and choroid plexus in adults.

-1- DOMAIN: VEGF-3 contains a basic insert which acts as a cell retention signal.

-1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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DR EMBL, S37052; AAB2252.1; -
 DR EMBL, S38083; AAB2253.1; -
 DR EMBL, S38100; AAB2254.1; -
 DR EMBL, M95200; AAA40547.1; -
 DR EMBL, U41383; -; NOT_ANNOTATED_CDS.
 DR PIR, A44881; A44881.
 DR PIR, B44881; B44881.
 DR HSSP, P15692; 2VPP.
 DR MGI, MGI:103178; Vegfa.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF, 1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART, SM00141; PDGF, 1.
 DR PROSITE, PS00249; PDGF, 1.
 DR PROSITE, PS00278; PDGF, 2; 1.
 DR Mitogen: Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Alternative splicing; Multigene family.
 KW Heparin-binding; Alternative splicing; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 214
 FT DISULFID 51 93
 FT DISULFID 82 127
 FT DISULFID 86 129
 FT DISULFID 76 76
 FT DISULFID 85 85
 FT CARBOHYD 100 100.
 FT VARSPLC 140 140
 FT VARSPLC 141 164
 FT VARSPLC 141 208
 FT CONFLICT 117 118
 FT SEQUENCE 214 AA, 25283 MW; B5540B51EAB6517 CRC64;
 SQ

Query Match 92.1%; Score 105; DB 1; Length 214;
 Best Local Similarity 100.0%; Freq. No. 4.2e-10;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 APTTEGEQKSHVIEKMDVY 20
 DB 27 APTTEGEQKSHVIEKMDVY 46

RESULT 2
 VEGA_RAT
 ID VEGA_RAT STANDARD; PRT; 214 AA.
 AC P16612; O9QXG7; O9QXG6; O9QXG7;
 DT 01-AUG-1990 (Rel. 15, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 DE VEGF OR VEGFA.
 GN Rattus norvegicus (Rat).
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxID=10116;

[1]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190.
 RX MEDLINE=90207249; PubMed=2320579;
 RA Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A.,
 RA Pallis T.M., Hope D.A., Thomas K.A.;
 RT "Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor.";
 RL Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633(1990).
 RN

[2]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND VEGF-A120).
 RA Ishii H., Arkawa T., Okayama M., Oota I., Takuma T., Inomata K.;
 RT "Developmental expression of vascular endothelial growth factor-A (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat mesenter muscle.";
 RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 RN

[3]
 RP SEQUENCE OF 27-40.
 RP TISSUE=Glial tumor;
 RX MEDLINE=95221439; PubMed=7706320;
 RA Disalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
 RA Soderman D.D., Pallis T.M., Sullivan K.A., Thomas K.A.;
 RT "Purification and characterization of a naturally occurring vascular endothelial growth factor: placenta growth factor heterodimer.";
 RL J. Biol. Chem. 270:7717-7723(1995).
 CC

-1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC

-1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC

-1- SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted. VEGF-A164 is more basic, has heparin-binding properties and, although a significant proportion remains cell-associated, most is freely secreted. VEGF-A188 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin (By similarity).
 CC

-1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=4;
 CC Comment=Additional isoforms seem to exist;
 CC

Name=VEGF-A188;
 CC IsoId=PI6612-1; Sequence=Displayed;
 CC Name=VEGF-A164;
 CC IsoId=PI6612-2; Sequence=VSP_004629, VSP_004630;
 CC Name=VEGF-A144;
 CC IsoId=PI6612-3; Sequence=VSP_004632;
 CC Name=VEGF-A120;
 CC IsoId=PI6612-4; Sequence=VSP_004631;
 CC

-1- TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in particularly in suprapubic and paraventricular nuclei and the choroid plexus. Also found abundantly in the corpus luteum of the ovary and in kidney glomeruli.
 CC

-1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC

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DR EMBL, M32167; AAA41211.1; -
 DR EMBL, AF215725; AAF19211.1; -
 DR EMBL, AF215726; AAF19212.1; -
 DR EMBL, AF222779; AAF25958.1; -
 DR HSSP, P15692; 2VPP.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF, 1.
 DR ProDom: PD001629; PD_growth_factor; 1.

```

DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 214
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
FT VARSPLC 140 140
FT VARSPLC 141 164
FT VARSPLC 141 208
FT VARSPLC 165 208
FT CONFLICT 101 101
SQ SEQUENCE 214 AA; 25239 MW; 60FB876F5304946 CRC64;

Query Match
Best Local Similarity 90.0%; Pred. No. 1.9e-09;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTTEGQKSHVVKFMDVY 20
DB 27 APTTEGQKSHVVKFMDVY 46

RESULT 3
VEGA_MESAU STANDARD; PRT; 190 AA.
AC 099PS1;
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC Mesocricetus.
OX NCBI_TaxID=10036;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=99311265; PubMed=1082276;
RA Yi X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
RT "Expression of vascular endothelial growth factor (VEGF) and its
RT receptors during embryonic implantation in the golden hamster
RT (Mesocricetus auratus).";
RL Cell Tissue Res. 296:339-349(1999).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC -----
DR EMBL; AF063013; AK000049.1; -.
DR HSSP; P15692; 1VGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT CARBOHYD 100 100
FT VARSPLC 140 140
FT VARSPLC 141 22276
SQ SEQUENCE 190 AA; 22276 MW; F00C5A8EA79A465F CRC64;

Query Match
Best Local Similarity 78.9%; Score 90; DB 1; Length 190;
Matches 16; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

QY 1 APTTEGQKSHVVKFMDVY 20
DB 27 APTTEGQKSHVVKFMDVY 46

RESULT 4
VEGA_HORSE STANDARD; PRT; 190 AA.
AC 09GKR0;
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN [1]
RP SEQUENCE FROM N.A.
RX Miura N., Mitsumi K., Kawahara K., Nakashima M., Fukumitsu S.,
RA Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;
RT "Cloning of cDNA and high-level expression of equine vascular
RT endothelial growth factor (VEGF).";
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth. Induces endothelial proliferation and vascular
CC permeability (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC -----

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DR EMBL: AB053350; BAB20890.1; -.
DR HSSP: P15692; 1VGH.
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF_1.
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART: SM00141; PDGF_1.
DR PROSITE: PS00249; PDGF_1; 1.
DR PROSITE: PS50278; PDGF_2; 1.
DR Mitogen: Angiogenesis; Growth factor; Glycoprotein; Signal;
KM Multigene family.
FT SIGNAL 1 26
FT CHAIN 1 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CAROXYD 100 100
SQ SEQUENCE 190 AA; 22312 MW; 87E9E161439E5F87 CRC64;

Query Match
Best Local Similarity 74.6%; Score 85; DB 1; Length 190;
Matches 15; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Oy 1 APTTEGOKSHVTKEMDVY 20
Db 27 APMAGEKHTEHVAKEMDVY 46

RESULT 5
VEGA_PIG STANDARD; PRT; 190 AA.
AC P49151; O9GL52;
DT 01-FEB-1996 (Rel. 33, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_Taxid=9823;
RN [1]
RP TISSUE=Heart;
RC MEDLINE=95143284; PubMed=7841203;
RA Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
RT "Nucleotide sequence and expression of the porcine vascular
RT endothelial growth factor."
RL Biochim. Biophys. Acta 1260:235-238 (1995).
RN [2]
RP SEQUENCE FROM N.A.
RA Lee T., Canty J.M.;
RT "PCR cloning of porcine cardiac vascular endothelial growth factor
RT gene."
RL Submitted (NOV-2000) to the EMBL/Genbank/DDJ databases.
RN [1]
RP FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
RP endothelial cell growth. It induces endothelial cell
RP proliferation, promotes cell migration, inhibits apoptosis, and
RP induces permeabilization of blood vessels. It binds to the
RP VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
RP heparin (by similarity).
RP SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
RP with PlGF (by similarity).
RP -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
RP to the extracellular matrix unless released by heparin (by
RP similarity).
RP -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC -----
DR EMBL: X81380; CAA57143.1; -.
DR EMBL: AF318502; AAC33064.1; -.
DR PIR: S52130; S52130.
DR HSSP: P15692; 1VGH.
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF_1.
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART: SM00141; PDGF_1.
DR PROSITE: PS00249; PDGF_1; 1.
DR PROSITE: PS50278; PDGF_2; 1.
DR Mitogen: Angiogenesis; Growth factor; Glycoprotein; Signal;
KM Heparin-binding; Multigene family.
FT SIGNAL 1 26
FT CHAIN 1 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CAROXYD 100 100
FT CONFLICT 102 102
SQ SEQUENCE 190 AA; 22368 MW; 04D40B8D7913047F CRC64;

Query Match
Best Local Similarity 74.6%; Score 85; DB 1; Length 190;
Matches 15; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

Oy 1 APTTEGOKSHVTKEMDVY 20
Db 27 APMAGEKHTEHVAKEMDVY 46

RESULT 6
VEGA_BOVIN STANDARD; PRT; 190 AA.
AC P15691;
DT 01-APR-1990 (Rel. 14, Created)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea;
OC Bovidae; Bovinae; Bos.
OX NCBI_Taxid=9913;
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
RA MEDLINE=90069608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic
RT mitogen."
RL Science 246:1306-1309 (1989).
RN [2]
RP SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND BETA).
RX MEDLINE=90121225; PubMed=2610687;
RA Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J.,
RA Lau K., Cripp T., Fiddes J.C., Abraham J.A.;
RT "Vascular endothelial growth factor: a new member of the platelet-
RT derived growth factor gene family."
RL Biochem. Biophys. Res. Commun. 165:1198-1206 (1989).
RN [3]
RP SEQUENCE OF 27-31.
RX MEDLINE=89286596; PubMed=2735925;
RA Ferrara N., Henzel W.J.;
RT "Placental follicular cells secrete a novel heparin-binding growth
RT factor specific for vascular endothelial cells."

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RL Biochem. Biophys. Res. Commun. 161:851-858 (1989).
CC -1- FUNCTION: Growth factor active in angiogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=Alpha;
CC IsoId=PI5691-1; Sequence=Displayed;
CC Name=Beta;
CC IsoId=PI5691-2; Sequence=VSP_004613; VSP_004614;
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; M32976; AAA30502.1; -
DR EMBL; M31836; AAA30804.1; -
DR EMBL; M33750; AAA30805.1; -
DR PIR; B40080; B40080.
DR HSSP; P15692; 1VGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
KM Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 51 93 BY SIMILARITY.
FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 129 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
FT VARSPLIC 139 183 Missing (in isoform Beta).
FT FT FTid=VSP_004613.
FT VARSPLIC 184 184 R -> K (in isoform Beta).
FT FT FTid=VSP_004614.
SQ SEQUENCE 190 AA; 22310 MW; EDBP903E46E24789 CRC64;

Query Match 71.1%; Score 81; DB 1; Length 190;
Best Local Similarity 75.0%; Pred. No. 3.7e-06;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;
Qy 1 APTTEGQKSHVIEKMDVY 20
Db 27 APMAEGGQKPHVVKMDVY 46

RESULT 7
VEGA_SHEEP STANDARD; PRT; 146 AA.
ID VEGA_SHEEP
AC P50412;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
permeability factor) (VPF).

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GN VEGF OR VEGFA.
OS Vitis arces (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Euteria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Kidney;
RX MEDLINE=97117958; PubMed=8958842;
RA Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K.,
RA Reynolds L.P., Moor R.M.;
RT "Characterization and expression of vascular endothelial growth
RT factor (VEGF) in the ovine corpus luteum.";
RL J. Reprod. Fertil. 108:157-165(1996).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; X89506; CAA61677.1; -
DR PIR; S57956; S57956.
DR HSSP; P15692; 1VVP.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
KM Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 146 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 51 93 BY SIMILARITY.
FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT CARBOHYD 100 85 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 N-LINKED (GLCNAC...) (POTENTIAL).
FT CARBOHYD 100 100
SQ SEQUENCE 146 AA; 17247 MW; 4B792CB557F91760 CRC64;

Query Match 69.3%; Score 79; DB 1; Length 146;
Best Local Similarity 75.0%; Pred. No. 5.9e-06;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;
Qy 1 APTTEGQKSHVIEKMDVY 20
Db 27 APMAEGGQKPHVVKMDVY 46

RESULT 8
VEGA_CANFA STANDARD; PRT; 214 AA.
ID VEGA_CANFA
AC O9MYV3; O9XSP3; O9XSP4; O9XSF5;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
permeability factor) (VPF).
GN VEGF OR VEGFA.

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OS Canis familiaris (Dog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 OX NCBI_TaxId=9615;
 RN [1]
 RN SEQUENCE FROM N.A. (ISOFORM VEGF-188).
 RX MEDLINE=20125516; PubMed=10661874;
 RA Schindgesser P., Weighofer W., Suarez S., Kaser-Hotz B., Steiner R.,
 RA Ballmer-Hofer K., Jausel R.;
 RA "Vascular endothelial growth factor (VEGF) and its receptors in tumor-
 bearing dogs.";
 RT Biol. Chem. 380:1449-1454 (1999).
 RL [2]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).
 RC TISSUE=Heart;
 RA Jüngling L., Roque R.S.;
 RA Submitted (MAR-1999) to the EMBL/Genbank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (by similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (by similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (by
 CC similarity).
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=3;
 CC Comment=Additional isoforms seem to exist;
 CC Name=VEGF-188;
 CC IsoId=Q9MYV3-1; Sequence=Displayed;
 CC Name=VEGF-182;
 CC IsoId=Q9MYV3-2; Sequence=VSP_004617;
 CC Name=VEGF-164;
 CC IsoId=Q9MYV3-3; Sequence=VSP_004615, VSP_004616;
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 CC -----
 CC EMBL; AJ133758; CAB82426.1; -;
 CC EMBL; AF133250; AAD29684.1; -;
 CC EMBL; AF133249; AAD29683.1; -;
 CC EMBL; AF133248; AAD29682.1; -;
 CC HSSP; P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF; 1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART; SMO0141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KM Heparin-binding; Alternative splicing; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 1 26
 FT DISULFID 27 214 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
 FT VARSPLC 140 140 K -> N (in isoform VEGF-164).
 FT VARSPLC 141 164 /FTId=VSP_004615.
 FT VARSPLC 164 Missing (in isoform VEGF-164).
 FT VARSPLC 159 164 Missing (in isoform VEGF-182).

FT FT /FTId=VSP_004617.
 FT CONFLICT 143 143 I -> V (IN REF. 2).
 FT CONFLICT 161 161 P -> S (IN REF. 2).
 SQ SEQUENCE 214 AA; 25175 MW; 0AC980A158C44B27 CRC64;
 Query Match 66.7%; Score 76; DB 1; Length 214;
 Best Local Similarity 70.0%; Pred. No. 2.86-05;
 Matches 14; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
 Qy 1 APTEGEGKSHVIFKFMVDV 20
 Db 27 APMAGGEHKPHVVKFMVDV 46
 RESULT 9
 VEGA_CAVPO STANDARD; PRT; 164 AA.
 ID VEGA_CAVPO STANDARD; PRT; 164 AA.
 AC P26617;
 DT 01-AUG-1992 (Rel. 23, Created)
 DT 01-AUG-1992 (Rel. 23, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability
 DE factor) (VFP).
 GN VEGF OR VEGFA.
 OS Cavia porcellus (Guinea pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystriognathi; Caviidae; Cavia.
 OX NCBI_TaxId=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Bile duct;
 RA Berse B.;
 RA Submitted (JAN-1992) to the EMBL/Genbank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
 CC cell growth. Induces endothelial proliferation and vascular
 CC permeability (by similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (by similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (by
 CC similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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 CC -----
 CC EMBL; M84230; AAA37057.1; -;
 CC HSSP; P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF; 1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART; SMO0141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 DR Mitogen; Angiogenesis; Growth factor; Glycoprotein.
 KM Heparin-binding; Alternative splicing; Multigene family.
 FT DISULFID 25 67 BY SIMILARITY.
 FT DISULFID 56 101 BY SIMILARITY.
 FT DISULFID 60 103 BY SIMILARITY.
 FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 74 74 N-LINKED (GLCNAC. . .) (POTENTIAL).
 SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DC44 CRC64;
 Query Match 64.9%; Score 74; DB 1; Length 164;
 Best Local Similarity 70.0%; Pred. No. 4.66-05;
 Matches 14; Conservative 1; Mismatches 5; Indels 0; Gaps 0;
 Qy 1 APTEGEGKSHVIFKFMVDV 20

Db 1 AFMAEGEQKREVEKEMDY 20

RESULT 10
VEGFA HUMAN STANDARD; PRT; 232 AA.
ID VEGFA HUMAN STANDARD; PRT; 232 AA.
AC P15692; 060720; 075875; 016889; 096NW5; 09H1W9; 09UH58;
AC 09U23;
DT 01-APR-1990 (Rel. 14, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Homo sapiens (human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM VEGF189 AND VEGF165).
RX MEDLINE=90069608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kiang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic mitogen."
RL Science 246:1306-1309(1989).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM VEGF189), AND PARTIAL SEQUENCE.
RX MEDLINE=90069609; PubMed=2479987;
RA Keck P.J., Hauser S.D., Krivt G., Sanzo K., Warren T., Feder J., Connolly D.T.;
RT "Vascular permeability factor, an endothelial cell mitogen related to PDGF."
RL Science 246:1309-1312(1989).
RN [3]
RP SEQUENCE FROM N.A. (ISOFORM VEGF189).
RX MEDLINE=91268072; PubMed=1711045;
RA Fischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D., Fiddes J.C., Abraham J.A.;
RT "The human gene for vascular endothelial growth factor. Multiple protein forms are encoded through alternative exon splicing."
RL J. Biol. Chem. 266:11947-11954(1991).
RN [4]
RP SEQUENCE FROM N.A. (ISOFORM VEGF206).
RX MEDLINE=92168017; PubMed=1791831;
RA Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;
RT "The vascular endothelial growth factor family: Identification of a fourth molecular species and characterization of alternative splicing of RNA."
RL Mol. Endocrinol. 5:1806-1814(1991).
RN [5]
RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
RX MEDLINE=92231879; PubMed=1567395;
RA Weindel K., Marne D., Welch H.A.;
RT "Alb-Associated Kaposi's sarcoma cells in culture express vascular endothelial growth factor."
RL Biochem. Biophys. Res. Commun. 183:1167-1174(1992).
RN [6]
RP SEQUENCE FROM N.A. (ISOFORM VEGF145).
RX MEDLINE=97207275; PubMed=9054410;
RA Poltorak Z., Cohen T., Sivan R., Kandelis Y., Spira G., Vlodavsky I., Keshet E., Neufeld G.;
RT "VEGF145, a secreted vascular endothelial growth factor isoform that binds to extracellular matrix."
RL J. Biol. Chem. 272:7151-7158(1997).
RN [7]
RP SEQUENCE FROM N.A. (ISOFORM VEGF183).
RX MEDLINE=99096474; PubMed=9878851;
RA Lei J., Jiang A., Pei D.;
RT "Identification and characterization of a new splicing variant of RT vascular endothelial growth factor: VEGF183."
RL Biochim. Biophys. Acta 1443:400-406(1998).

RN [8]
RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
RC TISSUE=Breast;
RX MEDLINE=99119755; PubMed=9450968;
RA Claffey K.P., Shih S.-C., Mullen A., Dziennis S., Cusick J.L., Abrams K.R., Lee S.W., Detsmar M.;
RT "Identification of a human VPF/VEGF 3' untranslated region mediating hypoxia-induced mRNA stability."
RL Mol. Biol. Cell 9:469-481(1998).
RN [9]
RP SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
RC TISSUE=Retina;
RX MEDLINE=99165303; PubMed=10067980;
RA Jingjing L., Xue Y., Agarwal N., Roque R.S.;
RT "Human Muller cells express VEGF183, a novel spliced variant of RT vascular endothelial growth factor."
RL Invest. Ophthalmol. Vis. Sci. 40:752-759(1999).
RN [10]
RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
RC TISSUE=Hemangioendothelioma;
RX Murata H., Fukushima J., Hattori S., Okuda K., Yanagi H.;
RT "Human CDNA for the vascular endothelial growth factor isoform VEGF165."
RL Submitted (DEC-1998) to the EMBL/Genbank/DBJ databases.
RN [11]
RP SEQUENCE FROM N.A. (ISOFORM VEGF148).
RX MEDLINE=99394945; PubMed=10464055;
RA Whittle C.J., Gillespie K.M., Harrison R., Mathieson P.W., Harper S.J.;
RT "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA and receptor mRNA expression in human glomeruli, and the identification of VEGF148 mRNA, a novel truncated splice variant."
RL Clin. Sci. 97:303-312(1999).
RN [12]
RP SEQUENCE FROM N.A. (ISOFORM VEGF121).
RX Sato J.D., Whitney R.G.;
RT "Human CDNA for vascular endothelial growth factor isoform VEGF121."
RL Submitted (DEC-1999) to the EMBL/Genbank/DBJ databases.
RN [13]
RP SEQUENCE FROM N.A.
RX Williams S.;
RT Submitted (DEC-2000) to the EMBL/Genbank/DBJ databases.
RN [14]
RP SEQUENCE OF 23-232 FROM N.A. (VEGF165).
RX Rieder M.U., Armet J.Z., Carrington D.P., Chung M.-W., Lee K.L., Poel C.L., Toch E.J., Yi Q., Nickerson D.A.;
RT Submitted (OCT-2001) to the EMBL/Genbank/DBJ databases.
RN [15]
RP PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
RX MEDLINE=90062112; PubMed=2584205;
RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R., Siegel N., Haymore B.L., Leitgruber R., Feder J.;
RT "Human vascular permeability factor. Isolation from U937 cells."
RL J. Biol. Chem. 264:20017-20024(1989).
RN [16]
RP SEQUENCE OF 27-41.
RX MEDLINE=93145946; PubMed=7678805;
RA Fiebig B.L., Jaeger B., Schoellmann C., Weindel K., Wiltig J., Koche G., Marne D., Hug H., Welch H.A.;
RT "Synthesis and assembly of functionally active human vascular endothelial growth factor homodimers in insect cells."
RL Eur. J. Biochem. 211:19-26(1993).
RN [17]
RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
RX MEDLINE=97352774; PubMed=9207067;
RA Muller Y.A., Li B., Christinger H.W., Wells J.A., Cunningham B.C., de Vos A.M.;
RT "Vascular endothelial growth factor: crystal structure and functional mapping of the kinase domain receptor binding site."
RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
RN [18]
RP X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.

```

RA MEDLINE=96035455; PubMed=9351807;
RX Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.;
RT "the crystal structure of vascular endothelial growth factor (VEGF)
RT refined to 1.93-A resolution: multiple copy flexibility and receptor
RL binding.";
RN Structure 5:1325-1338(1997).
RN (19)
RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
RX MEDLINE=99119204; PubMed=9622142;
RA Wiemann C., Christinger H.W., Cochran A.G., Cunningham B.C.,
RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.;
RT "Crystal structure of the complex between VEGF and a receptor-blocking
RL peptide.";
RN Biochemistry 37:17765-17772(1998).
RN (20)
RP STRUCTURE BY NMR OF 34-135.
RX MEDLINE=97477915; PubMed=9336848;
RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
RA Starovasnik M.A.;
RT "1H, 13C, and 15N backbone assignment and secondary structure of the
RL receptor-binding domain of vascular endothelial growth factor.";
RN Protein Sci. 6:2250-2260(1997).
RN (21)
RP STRUCTURE BY NMR OF 137-215.
RX MEDLINE=99298440; PubMed=9634701;
RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
RA Starovasnik M.A.;
RT "Solution structure of the heparin-binding domain of vascular
RL endothelial growth factor.";
RN Structure 6:637-648(1998).
RN (22)
RP FUNCTION.
RX MEDLINE=21320570; PubMed=11427521;
RA Murphy J.F., Fitzgerald D.J.;
RT "Vascular endothelial growth factor induces cyclooxygenase-dependent
RT proliferation of endothelial cells via the VEGF-2 receptor.";
RL FASEB J. 15:1667-1669(2001).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin. Neupoptin-1 binds isoforms VEGF-165 and VEGF-145.
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PLGF (By similarity)
CC -1- SUBCELLULAR LOCATION: VEGFR1 is acidic and freely secreted.
CC VEGFR165 is more basic, has heparin-binding properties and,
CC although a significant proportion remains cell-associated, most is
CC freely secreted. VEGFR189 is very basic; it is cell-associated
CC and extracellular matrix, although it may be released as a soluble
CC form by heparin, heparinase or plasmin.
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=7;
CC Comment=Experimental confirmation may be lacking for some
CC isoforms;
CC Name=VEGF206;
CC IsoId=P15692-1; Sequence=Displayed;
CC Name=VEGFR189;
CC IsoId=P15692-2; Sequence=VSP_004622;
CC

Query Match 57.5%; Score 65.5; DB 1; Length 232;
Best Local Similarity 66.7%; Pred. No. 0.0017;
Matches 14; Conservative 1; Mismatches 5; Indels 1; Gaps 1

Oy 1 APTTE-GEOKSHEVTKENDVY 20
Db 27 APMAEGGGQNHHEVVKFMDVY 47

RESULT 11
VEGA_CHICK STANDARD; PRT; 216 AA.

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AC P52582;091420;
DT 01-OCT-1996 (Rel.34, Created)
DT 15-UTU-1998 (Rel.36, Last sequence update)
DT 15-SEP-2003 (Rel.42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
DE VEGF OR VEGFA.
OS Gallus gallus (Chicken), and
OC Coturnix coturnix japonica (Japanese quail).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauiria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031, 93934;
RN [1]
RP SEQUENCE FROM N.A.
RC SPECIES=Chicken; TISSUE=Heart;
RA Takahashi T.;
RT "Chick embryonic ventricular myocytes VEGF";
RT Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A. (ISOFORMS VEGF-190; VEGF-166 AND VEGF-146).
RC SPECIES=C.c.japonica; TISSUE=embryo;
RA MEDLINE=96005007; PubMed=7556923;
RA Flame I., von Ruechem M., Drexler H.C., Syed-Ali S., Risau W.;
RT "Overexpression of vascular endothelial growth factor in the avian
RT embryo induces hypervascularization and increased vascular
RT permeability without alterations of embryonic pattern formation.";
RL Dev. Biol. 171:399-414(1995).
RN [3]
RP SEQUENCE OF 60-187 FROM N.A. (ISOFORMS VEGF-190 AND VEGF-166).
RC SPECIES=C.c.japonica;
RA MEDLINE=95301109; PubMed=7781909;
RA Flame I., Breier G., Risau W.;
RT "Vascular endothelial growth factor (VEGF) and VEGF receptor 2
RT (flk-1) are expressed during vasculogenesis and vascular
RT differentiation in the quail embryo.";
RL Dev. Biol. 169:699-712(1995).
CC -I- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -I- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with p1GF (By similarity).
CC -I- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=3;
CC Comment=Additional isoforms seem to exist;
CC Name=VEGF-190;
CC IsoId=P52582-1; Sequence=Displayed;
CC Name=VEGF-166;
CC IsoId=P52582-2; Sequence=VSP 004633, VSP 004634;
CC Note=Has been shown to exist only in quail so far;
CC Name=VEGF-146;
CC IsoId=P52582-3; Sequence=VSP 004635, VSP 004636;
CC Note=Has been shown to exist only in quail so far;
CC -I- TISSUE SPECIFICITY: Abundantly and equally expressed in heart and
CC liver. In kidney glomeruli, brain and yolk sac, VEGF-166 is 5- to
CC 10-times more abundant than VEGF-190.
CC -I- DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1 and is
CC upregulated during gastrulation. Expression of VEGF-190 is detectable
CC only from day 2.
CC -I- DOMAIN: VEGF-190 contains a basic insert which acts as a cell
CC retention signal.
CC -I- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL, AB011078; BAA24925.1; -.
DR EMBL, S79680; AAB35371.1; -.
DR HSSP; P15692; 1VGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
KM Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1
FT CHAIN 1
FT DISULFID 27 216
FT DISULFID 52 94
FT DISULFID 83 128
FT DISULFID 87 130
FT DISULFID 77 77
FT DISULFID 86 86
FT CARBOHYD 101 101
FT VARSPLIC 142 142
FT VARSPLIC 143 166
FT VARSPLIC 166 166
FT VARSPLIC 167 210
SQ SEQUENCE 216 AA; 25203 MW; 82B69C2F6FC6DA7 CRC64;

Query Match
Best Local Similarity 50.9%; Score 58; DB 1; Length 216;
Matches 10; Conservative 5; Mismatches 1; Indels 0; Gaps 0;

QY 5 B6QKSHVYKFMVDY 20
DB 32 D6RKKNVYKFLVY 47

RESULT 12
YLS2_CAEEL
AC P34431; P34432; STANDARD; PRT; 2186 AA.
DT 01-FEB-1994 (Rel. 28, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Hypothetical protein P44E2.2 in chromosome III.
GN F44E2.2/P44E2.1.
OS Caenorhabditis elegans.
OC Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida; Rhabditoidea;
OC Rhabditidae; Pelodierinae; Caenorhabditis.
OX NCBI_TaxID=6239;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Briscot N2;
RX MEDLINE=94150718; PubMed=7906398;
RA Wilson R., Almscough R., Anderson K., Baynes C., Berks M.,
RA Bonfield J., Burton C., Connell M., Copsey J., Cooper J., Coulson A.,
RA Cratton M., Dear S., Du Z., Durbin R., Favell A., Fraser A.,
RA Fulton L., Gardner A., Green P., Hawkins T., Hillier L., Jier M.,
RA Johnston L., Jones M., Kershaw J., Kirsten J., Laister N.,
RA Latreille P., Lightning J., Lloyd C., Mortimore B., O'Callaghan M.,
RA Parsons J., Percy C., Rifken L., Roopra A., Saunders D., Shownkeen R.,
RA Sims M., Smaildon N., Smith A., Smith M., Southam E., Staden R.,
RA Sulston J., Thierry-Mieg J., Thomas K., Vaughan K.,
RA Waterston R., Watson A., Weinstock L., Wilkinson-Sproat J.,
RA Wohldman P.;
RA "2.2 Mb of contiguous nucleotide sequence from chromosome III of C.
RT elegans";
RL Nature 368:32-38(1994).
RN [2]
RP REVISIONS, AND ALTERNATIVE SPLICING.
RA Waterston R.;

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RL Submitted (NOV-2001) to the EMBL/GenBank/DBJ databases.
CC -!- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=b;
CC Name=d;
CC Name=a;
CC IsoId=P34431-1; Sequence=Displayed;
CC IsoId=P34431-2; Sequence=VSP_005225;
CC Note=No experimental confirmation available;
CC -!- SIMILARITY: THE PROTEASE BELONGS TO PEPTIDASE FAMILY A11.
CC -!- SIMILARITY: Contains 1 CCHC-type zinc finger.
CC -----
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CC -----
DR EMBL, L23646; AAA28035.2; -.
DR EMBL, L23646; AAL02516.1; -.
DR HSSP; P03366; 1HWV.
DR WormPep; F44E2.2a; CE07254.
DR WormPep; F44E2.2b; CE29321.
DR InterPro; IPR001969; Aspprotease_site.
DR InterPro; IPR001584; Rve.
DR InterPro; IPR000477; RVTse.
DR InterPro; IPR001878; Znf_CCHC.
DR Pfam; PF00665; rve; 1.
DR Pfam; PF00078; rvc; 1.
DR Pfam; PF00098; zf_CCHC; 1.
DR PRINTS; PR00939; C2HCZNFINGER.
DR SMART; SM00343; Znf_C2HC; 1.
DR PROSITE; PS00141; ASF_PROTEASE; 1.
DR PROSITE; PS50158; ZF_CCHC; 1.
KW Hypothetical protein; Hydrolase; Aspartyl protease; Transferase;
KW RNA-directed DNA polymerase; Zinc-finger; Alternative splicing.
FT ZN FING 589 606
FT ACT SITE 664 664
FT VARSPLIC 91 101
SQ SEQUENCE 2186 AA; 249691 MW; 29C5A10F81FB3D6E CRC64;

Query Match
Best Local Similarity 40.4%; Score 46; DB 1; Length 2186;
Matches 8; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 7 BQKSHVYKFMVDY 21
DB 186 EQKXNQINQIMDTRC 200

RESULT 13
RIMM_STRPN
ID RIMM_STRPN STANDARD; PRT; 172 AA.
AC Q97RM5;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Probable 16S rRNA processing protein rimm.
GN RIMM OR SP0778.
OS Streptococcus pneumoniae.
OC Bacteria; Firmicutes; Lactobacillales; Streptococcaceae;
OC Streptococcus.
OX NCBI_TaxID=1313;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=ATCC BAA-334 / TIGR4;
RX MEDLINE=21357209; PubMed=11463916;
RA Tettelin H., Nelson K.E., Paulsen I.T., Eisen J.A., Read T.D.,
RA Peterson S., Heidelberg J., Deboy R.T., Haft D.H., Dodson R.J.,
RA Durkin A.S., Gwinn M., Kolonay J.F., Nelson W.C., Peterson J.D.,
RA Umayam L.A., White O., Salzberg S.L., Lewis M.R., Radune D.,

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RA Holtzaple E., Khouri H., Wolf A.M., Uterback T.R., Hansen C.L.,
RA McDonald L.A., Feldblum T.V., Anguoli S., Dickinson T., Hickey E.K.,
RA Holt I.E., Lofus B.J., Yang F., Smith H.O., Venter J.C.,
RA Dougherty B.A., Morrison D.A., Hollingshead S.K., Fraser C.M.;
RT "Complete genome sequence of a virulent isolate of Streptococcus
RT pneumoniae";
RL Science 293:498-506(2001).
CC -1- FUNCTION: Essential for efficient processing of 16S rRNA. Probably
CC part of the 30S subunit prior to or during the final step in the
CC processing of 16S free 30S ribosomal subunits. It could be some
CC accessory protein needed for efficient assembly of the 30S
CC subunit. It is needed in a step prior to rRNA during the
CC maturation of 16S rRNA. It has affinity for free ribosomal 30S
CC subunits but not for 70S ribosomes (By similarity).
CC -1- SUBCELLULAR LOCATION: Cytoplasmic (Potential).
CC -1- SIMILARITY: BELONGS TO THE RIMM FAMILY.
CC -----
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CC -----
DR EMBL: AB007385; AKK74916.1; -.
DR PIR: C95090; C95090.
DR TIGR: SP0778; -.
DR HAMAP: MF_00014; -; 1.
DR InterPro: IPR002676; RIMM.
DR Pfam: PF05239; PRC; 1.
DR Pfam: PF01782; RIMM; 1.
KW rRNA processing; Complete proteome
SQ SEQUENCE 172 AA; 19817 MW; 954FA67942B68468 CRC64;

Query Match 38.6%; Score 44; DB 1; Length 172;
Best Local Similarity 50.0%; Pred. No. 4.8;
Matches 7; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

QY 7 EOKSHVITKENVY 20
DB 58 KQNFIDIKKDMY 71

RESULT 14
ID HS97_STRFN STANDARD; PRT; 886. AA.
AC Q94738;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 30-MAY-2000 (Rel. 39, Last annotation update)
DE 97 kDa heat shock protein (Heat shock protein 110).
OS HSP110.
GN Strongylocentrotus franciscanus (Sea urchin).
OC Eukaryota; Metazoa; Echinodermata; Eleutherozoa; Echinozoa;
OC Echinoidea; Euechinoidea; Echinacea; Echinoida; Strongylocentrotidae;
OC Strongylocentrotus.
OK NCBI_TaxID=7665;
RN (1)
RP SEQUENCE FROM N.A.
RX MEDLINE=97287853; PubMed=9142981;
RA Mauk R., Jaworski D., Kamei N., Glabe C.G.;
RT "Identification of a 97-kDa heat shock protein from S. franciscanus
RT ovaries with 94% amino acid identity to the S. purpuratus egg surface
RT receptor for sperm";
RT Dev. Biol. 184:31-37(1997).
CC -1- SUBCELLULAR LOCATION: Cytoplasmic (Potential).
CC -1- SIMILARITY: BELONGS TO THE HEAT SHOCK PROTEIN 70 FAMILY.
CC -----
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CC -----
DR EMBL: U69254; AAB09038.1; -.
DR InterPro: IPR01023; Hsp70.
DR Pfam: PF00012; HSP70; 1.
DR PRINTS: PR00301; HEATSHOCK70.
DR ProDom: PD000089; HSP70; 3.
DR PROSITE: PS00297; HSP70_1; FALSE_NEG.
DR PROSITE: PS00329; HSP70_2; FALSE_NEG.
DR PROSITE: PS01036; HSP70_3; 1.
KW ATP-binding.
SQ SEQUENCE 886 AA; 98446 MW; 252177643ECFEDD8 CRC64;

Query Match 38.6%; Score 44; DB 1; Length 886;
Best Local Similarity 88.9%; Pred. No. 28;
Matches 8; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTTEGEX 9
DB 846 APTTEGEX 854

RESULT 15
ID RPL1_MOUSE STANDARD; PRT; 1131 AA.
AC P35601;
DT 01-JUN-1994 (Rel. 29, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Activator 1 140 kDa subunit (Replication factor C large subunit) (A1
DE 140 kDa subunit) (RF-C 140 kDa subunit) (Activator 1 large subunit)
DE (A1-P145) (Differentiation specific element binding protein)
DE (ISRE-binding protein).
DE RFL1 OR RECC1 OR IBE-1.
GN Mus musculus (Mouse).
OC Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OK NCBI_TaxID=10090;
RN (1)
RP SEQUENCE FROM N.A.
RX STRAIN=BALB/c;
RX MEDLINE=94089669; PubMed=8265586;
RA Buttrick P.D., Utani A., Pan Z., Yamada Y.;
RT "Cloning of the large subunit of activator 1 (replication factor C)
RT reveals homology with bacterial DNA ligases";
RT Proc. Natl. Acad. Sci. U.S.A. 90:11543-11547(1993).
RL (2)
RP SEQUENCE FROM N.A.
RX TISSUE=Liver;
RX MEDLINE=94158835; PubMed=8114700;
RA Luckow B., Bunz F., Stillman B., Lichter P., Schuetz G.;
RT "Cloning, expression, and chromosomal localization of the
RT 140-kilodalton subunit of replication factor C from mice and
RT humans";
RT Mol. Cell. Biol. 14:1626-1634(1994).
RN (3)
RP SEQUENCE FROM N.A.
RX STRAIN=Swiss;
RX MEDLINE=95388065; PubMed=7659092;
RA McGhee Habener J.F.;
RT "Differentiation-specific element binding protein (DSEB) binds to a
RT defined element in the promoter of the angiotensinogen gene required
RT for the irreversible induction of gene expression during
RT differentiation of 3T3-L1 adipoblasts to adipocytes";
RT Mol. Endocrinol. 9:487-501(1995).
RN (4)
RP SEQUENCE FROM N.A.
RA Haque S.J.;
RL Submitted (FEB-1994) to the EMBL/GenBank/DBJ databases.
RN (5)
SQ SEQUENCE OF 1-565 FROM N.A.

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:33:38 ; Search time 21.7538 Seconds
(without alignment)
249.110 Million cell updates/sec

Title: US-09-266-543-5
Perfect score: 114
Sequence: 1 APTEGEQKSHVIFKMDVYC 21

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues
Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

SPTREMBL_23:*

- 1: sp_archaea:*
- 2: sp_bacteria:*
- 3: sp_fungi:*
- 4: sp_human:*
- 5: sp_invertebrate:*
- 6: sp_mammal:*
- 7: sp_mhc:*
- 8: sp_organelle:*
- 9: sp_phage:*
- 10: sp_plant:*
- 11: sp_rodent:*
- 12: sp_virus:*
- 13: sp Vertebrate:*
- 14: sp_unclassified:*
- 15: sp_virus:*
- 16: sp_bacteriaph:*
- 17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	105	92.1	141	11	070123 mus musculu
2	101	88.6	110	11	088911 rattus norv
3	101	88.6	190	11	0912B1 ratius norv
4	91	79.8	190	11	090X39 spalax leuc
5	83	72.8	184	6	08HY70 musfela vis
6	79	70.2	189	6	0951Q4 felis silve
7	79	69.3	190	6	077643 ovls atles
8	75	65.8	124	6	08SE29 sus scrofa
9	69	60.5	118	4	09MZB1 canis lupus
10	65.5	57.5	191	4	096KJ0 homo sapien
11	65.5	57.5	191	4	096KJ0 homo sapien
12	65.5	57.5	191	4	096KJ0 homo sapien
13	61	53.5	126	6	09BDE7 macaca fasc
14	50	43.9	194	13	042571 xenopus lae
15	50	43.9	194	13	042572 xenopus lae
16	49	43.0	1029	16	09CMT7 Pasteurella

17	48	42.1	144	13	073822 brachydanio
18	48	42.1	188	13	073682 brachydanio
19	48	42.1	1357	5	08IKL1 plasmodium
20	47.5	41.7	360	5	045344 caenorhabdi
21	47	41.2	208	10	09LM82 oryza sativ
22	47	41.2	208	10	08H665 oryza sativ
23	46	40.4	288	2	08KMM1 leucostoc
24	46	40.4	401	3	08NKE2 cryptococcu
25	46	40.4	436	10	022206 arabidopsis
26	46	40.4	499	4	08WMY3 homo sapien
27	46	40.4	2272	5	077329 caenorhabdi
28	45	39.5	128	6	08EPL5 equus caball
29	45	39.5	2213	5	081HW8 plasmodium
30	44.5	39.0	235	11	08C8R5 mus musculu
31	44	38.6	113	16	097M50 clostridium
32	44	38.6	172	16	08DO3 streptococc
33	44	38.6	180	16	0925A5 streptococc
34	44	38.6	248	16	08YEH8 anabena sp
35	44	38.6	405	3	014349 schizosacch
36	44	38.6	1455	11	09R0G8 mus musculu
37	44	38.6	1455	11	09R0G8 mus musculu
38	43.5	38.2	982	12	08B0T4 epizootic h
39	43	37.7	113	16	098KM4 rhizobium l
40	43	37.7	213	16	08NOC6 corynebacte
41	43	37.7	278	16	09PLZ3 campylobact
42	43	37.7	332	17	029749 archaeoglob
43	43	37.7	360	4	09UG88 homo sapien
44	43	37.7	439	5	08SOK7 encephalito
45	43	37.7	465	10	08S465 zea mays (m

ALIGNMENTS

RESULT 1

070123 PRELIMINARY; PRT; 141 AA.

AC 070123; 01-AUG-1998 (TRENBLREL. 07, Created)

DT 01-AUG-1998 (TRENBLREL. 07, Last sequence update)

DT 01-MAR-2003 (TRENBLREL. 23, Last annotation update)

DE VEGF115.

GN VEGFA OR VEGF.

OS Mus musculus (Mouse).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OC NCBI_TaxID=10090;

RN [1]

RP SEQUENCE FROM N.A.

RC STRAIN=ICR.

RX MEDLINE=95101726; PubMed=7803491; Madhwa R.; Sugihara T.; Kaul S.C.; Mitsui Y.; Madhwa R.; "Enhanced expression of multiple forms of VEGF is associated with spontaneous immortalization of murine fibroblasts."

RT Biochim. Biophys. Acta 1224:365-370(1994).

RN [2]

RP SEQUENCE FROM N.A.

RC STRAIN=ICR.

RX MEDLINE=98112857; PubMed=9446618; Sugihara T.; Madhwa R.; Kaul S.C.; Mitsui Y.; "A novel alternatively spliced form of murine vascular endothelial growth factor. VEGF 115."

RT U. Biol. Chem. 273:3033-3038(1998).

RL EMBL; U50279; AAC05442.1; -.

DR HSP; P49763; 1FZV.

DR MGD; MGI:103178; Vegfa.

DR InterPro: IPR000072; PD_growth_factor.

DR Pfam: PF001629; PD_growth_factor; 1.

DR ProDom: PD001629; PD_growth_factor; 1.

DR SMART; SM00141; PDGF_1.

DR PROSITE; PS00249; PDGF_1; 1.

DR PROSITE; PS50278; PDGF_2; 1.

SQ SEQUENCE 141 AA; 15550 MW; A27C4EF5A7071338 CRC64;

Query Match 92.1%; Score 105; DB 11; Length 141;
Best Local Similarity 100.0%; Pred. No. 1.1e-09;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTTEGOKSHVIFKMDVY 20
DB 27 APTTEGOKSHVIFKMDVY 46

RESULT 2

088911 PRELIMINARY; PRT; 110 AA.
AC 088911;
DT 01-NOV-1998 (TREMBlrel. 08, Created)
DT 01-NOV-1998 (TREMBlrel. 08, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor A 110 (Fragment).
GN VEGF.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Sprague-Dawley; TISSUE=Penis;
RX MEDLINE=99115228; PubMed=9916007;
RA Burchardt, M., Burchardt T., Chen M.W., Shabsigh A., de la Taille A.,
RA Buttyan R., Shabsigh R.;
RT "Expression of messenger ribonucleic acid splice variants for vascular
RT endothelial growth factor in the penis of adult rats and humans.";
RL Bio. Reprod. 60:398-404(1999).
DR EMBL; AF080594; AAC36708.1; -.
DR HSP; P49763; 1FZY.
DR InterPro; IPR002400; GF_cysknoc.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON TER 1
SQ SEQUENCE 110 AA; 12713 MW; B81B79AC08D89F06 CRC64;
Query Match 88.6%; Score 101; DB 11; Length 110;
Best Local Similarity 90.0%; Pred. No. 3.9e-09;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;
QY 1 APTTEGOKSHVIFKMDVY 20
DB 1 APTTEGOKSHVIFKMDVY 20

RESULT 3

0912E1 PRELIMINARY; PRT; 190 AA.
AC 0912E1;
DT 01-DEC-2001 (TREMBlrel. 19, Created)
DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor.
GN VEGF.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=Sprague-Dawley;
RA Marlon S., Lee T.-C.;
RT "Cloning of multiple VEGF splice variants from hypoxic neonatal rat
RT cardiomyocytes.";

RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.

DR EMBL; AY033506; AAL07526.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 190 AA; 22396 MW; 589374010441F377 CRC64;

Query Match 88.6%; Score 101; DB 11; Length 190;
Best Local Similarity 90.0%; Pred. No. 6.9e-09;
Matches 18; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

QY 1 APTTEGOKSHVIFKMDVY 20
DB 27 APTTEGOKSHVIFKMDVY 46

RESULT 4

090X39 PRELIMINARY; PRT; 190 AA.
AC 090X39;
DT 01-MAY-2000 (TREMBlrel. 13, Created)
DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor.
GN VEGF.
OS Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
OC Nannospalax.
OX NCBI_TaxID=30637;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=99313148; PubMed=10386577;
RA Avioli A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
RT "Adaptive hypoxic tolerance in the subterranean mole rat Spalax
RT ehrenbergi: the role of vascular endothelial growth factor.";
RL FEBS Lett. 452:133-140(1999).
DR EMBL; AF166236; AAD56245.1; -.
DR HSP; P49763; 1FZY.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 190 AA; 22488 MW; 2228383BC65F0BFE CRC64;

Query Match 79.8%; Score 91; DB 11; Length 190;
Best Local Similarity 72.0%; Pred. No. 3.4e-07;
Matches 18; Conservative 1; Mismatches 2; Indels 4; Gaps 1;

QY 1 APTTEGOKSHVIFKMDVY---YC 21
DB 27 APTTEGOKSHVIFKMDVFRSVC 51

RESULT 5

08HY70 PRELIMINARY; PRT; 184 AA.
AC 08HY70;
DT 01-MAR-2003 (TREMBlrel. 23, Created)
DT 01-MAR-2003 (TREMBlrel. 23, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor A (Fragment).
GN Mustela vison (American mink).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustelinae;
OX NCBI_TaxID=9667;
RN [1]


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RP SEQUENCE FROM N.A.
RA Lopes F.L., Demarais J.A., Gevery N.Y., Ledoux S., Murphy B.D.;
RT "Expression of VEGF isoforms and receptors during implantation in
RL Mustela vison."
DR Submitted (OCT-2002) to the EMBL/GenBank/DBJ databases.
EMBL; AY158156; AAN76365.1; -.
FT NON TER 184
SQ SEQUENCE 184 AA; 21608 MW; BAD47CCB0C146F22 CRC64;

Query Match 72.8%; Score 83; DB 6; Length 184;
Best Local Similarity 75.0%; Pred. No. 7.2e-06;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 APTEGEGKSHVTKFMDVY 20
Db 27 APMAEGEHKPHVVKFMDVY 46

RESULT 6
Q9SLQ4 PRELIMINARY; PRT; 189 AA.
AC Q9SLQ4.
DT 01-DEC-2001 (TREMBLrel. 19, Created)
DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor.
OS Felis silvestris catus (Cat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
OX NCBI_TaxID=9685;
RN [1]
RP SEQUENCE FROM N.A.
RA Koga L., Kobayashi Y., Yazawa M., Masuda K., Ohno K., Tsujimoto H.;
RT "Nucleotide sequence and expression of the feline vascular endothelial
RT growth factor."
RL Submitted (SSP-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AB071947; BAB68520.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 189 AA; 22193 MW; CIB4646759AB3FD6 CRC64;

Query Match 70.2%; Score 80; DB 6; Length 189;
Best Local Similarity 70.0%; Pred. No. 2.4e-05;
Matches 14; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

Qy 1 APTEGEGKSHVTKFMDVY 20
Db 27 APMAEGEHKPHVVKFMDVY 46

RESULT 7
Q77643 PRELIMINARY; PRT; 190 AA.
AC Q77643.
DT 01-NOV-1998 (TREMBLrel. 08, Created)
DT 01-NOV-1998 (TREMBLrel. 08, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN=Columbia-Rambouillet;
RA Cheung C.Y., Brace R.A.;
RT "Ovine vascular endothelial growth factor: Nucleotide sequence and

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RT expression in fetal tissues."
RL Growth Factors 0:0-0(1998).
DR EMBL; AF071015; AAC23608.1; -.
DR HSSP; P49763; IFZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 190 AA; 22342 MW; OD5E3B3B5C3E739 CRC64;

Query Match 69.3%; Score 79; DB 6; Length 190;
Best Local Similarity 75.0%; Pred. No. 3.5e-05;
Matches 15; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

Qy 1 APTEGEGKSHVTKFMDVY 20
Db 27 APMAEGGCKPHVVKFMDVY 46

RESULT 8
Q8SPZ9 PRELIMINARY; PRT; 124 AA.
AC Q8SPZ9.
DT 01-JUN-2002 (TREMBLrel. 21, Created)
DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)
DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suidae; Suidae; Sus.
OX NCBI_TaxID=9623;
RN [1]
RP SEQUENCE FROM N.A.
RA TISSUE=Myocardium;
RA Yuan H., Li J.;
RT "The expression of VEGF in porcine collateral-dependent myocardial by
RT exercise training."
RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF41807; AAL85286.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON TER 124
SQ SEQUENCE 124 AA; 14552 MW; 2E1C1A009E67C9C9 CRC64;

Query Match 65.8%; Score 75; DB 6; Length 124;
Best Local Similarity 81.2%; Pred. No. 0.00011;
Matches 13; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 5 EGEKSHVTKFMDVY 20
Db 3 EGDQKPHVVKFMDVY 18

RESULT 9
Q9WZB1 PRELIMINARY; PRT; 118 AA.
AC Q9WZB1.
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;

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RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Placental artery endothelium;
 RA Zheng J., Tsai S.C., Magness R.R.;
 RT "Growth factor expression in ovine fetal placental artery endothelial
 cell";
 RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF250375; AAF75258.1; -.
 DR HSSP; P49763; 1FZV.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 FT NON TER
 SQ SEQUENCE 118 AA; 13931 MW; 757DC53AA56378A6 CRC64;

Query Match 60.5%; Score 69; DB 6; Length 118;
 Best Local Similarity 81.2%; Pred. No. 0.001;
 Matches 13; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy 5 EGQKSHVYKFMVDY 20
 Db 3 EGQKSHVYKFMVDY 18

RESULT 10

Q96KJ0 PRELIMINARY; PRT; 191 AA.
 AC Q96KJ0;
 DT 01-DEC-2001 (TRENBLrel. 19, Created)
 DT 01-DEC-2001 (TRENBLrel. 19, Last sequence update)
 DT 01-MAR-2003 (TRENBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor 165b.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Kidney;
 RA Sugiono M., Winkler M., Gyllatt D., Harper S.J., Bates D.O.;
 RT "A new isoform of vascular endothelial growth factor mRNA is down-
 regulated in renal tumors";
 RL (In) Unknown A. (eds);
 RL Proceedings of the 7th World Congress on Microcirculation, pp.3-3,
 RL Sydney, Australia (2001).
 DR EMBL; AF430806; AAL27435.1; -.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22258 MW; D25243E540AC79BD CRC64;

Query Match 57.5%; Score 65.5; DB 4; Length 191;
 Best Local Similarity 66.7%; Pred. No. 0.0067;
 Matches 14; Conservative 1; Mismatches 5; Indels 1; Gaps 1;

Qy 1 APTTE-GEQKSHVYKFMVDY 20
 Db 27 APMAEGGQGNHHEVYKFMVDY 47

RESULT 11

Q96L82 PRELIMINARY; PRT; 191 AA.
 AC Q96L82;
 DT 01-DEC-2001 (TRENBLrel. 19, Created)
 DT 01-DEC-2001 (TRENBLrel. 19, Last sequence update)
 DT 01-OCT-2002 (TRENBLrel. 22, Last annotation update)

DE Vascular endothelial growth factor.
 GN VEGF.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
 NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Liu J., Peng X., Yuan J., Qiang B.;
 RT "Cloning of vascular endothelial growth factor (VEGF) cDNA";
 RL Submitted (JUL-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AY047581; AAK95847.1; -.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 57.5%; Score 65.5; DB 4; Length 191;
 Best Local Similarity 66.7%; Pred. No. 0.0067;
 Matches 14; Conservative 1; Mismatches 5; Indels 1; Gaps 1;

Qy 1 APTTE-GEQKSHVYKFMVDY 20
 Db 27 APMAEGGQGNHHEVYKFMVDY 47

RESULT 12

Q95NE5 PRELIMINARY; PRT; 191 AA.
 AC Q95NE5;
 DT 01-DEC-2001 (TRENBLrel. 19, Created)
 DT 01-DEC-2001 (TRENBLrel. 19, Last sequence update)
 DT 01-OCT-2002 (TRENBLrel. 22, Last annotation update)
 DE SIVEGF165.
 OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 OC Cercopithecoidea; Macaca.
 NCBI_TaxID=9541;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=96245208; PubMed=8641836;
 RA Shima D.T., Gougeon A., Miller J.W., Tolentino M., Robinson G.,
 RA Adams A.P., D'Amore P.A.;
 RT "Cloning and mRNA expression of vascular endothelial growth factor in
 ischemic retinas of Macaca fascicularis";
 RL Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
 DR EMBL; S82167; AAB47118.1; -.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 57.5%; Score 65.5; DB 6; Length 191;
 Best Local Similarity 66.7%; Pred. No. 0.0067;
 Matches 14; Conservative 1; Mismatches 5; Indels 1; Gaps 1;

Qy 1 APTTE-GEQKSHVYKFMVDY 20
 Db 27 APMAEGGQGNHHEVYKFMVDY 47

RESULT 13

Q9BDP7 PRELIMINARY; PRT; 126 AA.
 AC Q9BDP7;
 DT 01-JUN-2001 (TRENBLrel. 17, Created)
 DT 01-JUN-2001 (TRENBLrel. 17, Last sequence update)

DT 01-MAR-2003 (TReMBLrel. 23, last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 OS Macaca mulatta (Rhesus macaque).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 CC Cercopithecoidea; Macaca.
 NCBI_TaxID=9544;
 RN [1]

RP SEQUENCE FROM N.A.
 RA Hazard T.M., Nayak N.R., Jia Y., Stouffer R.L.;

RT "Rhesus macaque VEGF mRNA sequence."
 RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.

DR EMBL; AF339737; AAK26379.1; -
 DR HSSP; P49763; 1FZV.

DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.

DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.

DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS00278; PDGF_2; 1.

FT NON_TER 1 126
 FT SEQUENCE 126 AA; 14599 MW; 1175F2386A883BCF CRC64;

Query Match 53.5%; Score 61; DB 6; Length 126;
 Best Local Similarity 73.3%; Pred. No. 0.025;

Matches 11; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 6 EGQKSHVYKFMVDY 20
 DB 26 EGQKSHVYKFMVDY 40

RESULT 14

ID 042571 PRELIMINARY; PRT; 148 AA.

AC 042571;
 DT 01-JAN-1998 (TReMBLrel. 05, Created)

DT 01-JAN-1998 (TReMBLrel. 05, last sequence update)
 DT 01-MAR-2003 (TReMBLrel. 23, last annotation update)

DE Vascular endothelial growth factor 122.
 GN VEGF.

OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;
 CC Xenopodidae; Xenopus.

NCBI_TaxID=8355;
 RN [1]

RP SEQUENCE FROM N.A.
 RA Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;

RT "Neovascularization of the Xenopus embryo."
 RL Dev. Dyn. 0:0-0(1997).

DR EMBL; AF008593; AAB63679.1; -
 DR HSSP; P49763; 1FZV.

DR InterPro: IPR002400; GF_cysknob.
 DR InterPro: IPR000072; PD_growth_factor.

DR Pfam; PF00341; PDGF_1.
 DR PRINTS; PR00438; GFCYSKNOT.

DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.

DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS00278; PDGF_2; 1.

FT SEQUENCE 148 AA; 17234 MW; 4AD153CA2F8B1E95 CRC64;

Query Match 43.9%; Score 50; DB 13; Length 148;
 Best Local Similarity 56.2%; Pred. No. 2.1;
 Matches 9; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 5 EGQKSHVYKFMVDY 20
 DB 32 EGQKSHVYKFMVDY 47

RESULT 15
 ID 042572 PRELIMINARY; PRT; 194 AA.
 AC 042572;

DT 01-JAN-1998 (TReMBLrel. 05, Created)
 DT 01-JAN-1998 (TReMBLrel. 05, last sequence update)

DT 01-MAR-2003 (TReMBLrel. 23, last annotation update)
 DE Vascular endothelial growth factor 196.

GN VEGF.

OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;
 CC Xenopodidae; Xenopus.

NCBI_TaxID=8355;
 RN [1]

RP SEQUENCE FROM N.A.
 RA Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;

RT "Neovascularization of the Xenopus embryo."
 RL Dev. Dyn. 0:0-0(1997).

DR EMBL; AF008594; AAB63680.1; -
 DR HSSP; P49763; 1FZV.

DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.

DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.

DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS00278; PDGF_2; 1.

FT SEQUENCE 194 AA; 22672 MW; 85D7BEC7CEFE178 CRC64;

Query Match 43.9%; Score 50; DB 13; Length 194;
 Best Local Similarity 56.2%; Pred. No. 2.8;
 Matches 9; Conservative 3; Mismatches 4; Indels 0; Gaps 0;

QY 5 EGQKSHVYKFMVDY 20
 DB 32 EGQKSHVYKFMVDY 47

Search completed: January 30, 2004, 11:44:40
 Job time : 22.7538 secs

PA (ENTR-) ENTREMED INC.
 XX
 PI Holaday JW, Ruiz A, Madsen U;
 XX
 DR WPI, 2000-594263/56.
 XX
 XX An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 PT of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 PS Claim 13, Page 28, 95pp; English.
 XX
 CC AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubecosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentaion and cat scratch fever.
 CC
 XX Sequence 41 AA:
 SQ
 Query Match 100.0%; Score 237; DB 21; Length 41;
 Best Local Similarity 100.0%; Pred. No. 1e-18;
 Matches 41; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 CERRHLPVQTCCKSCKNTDSRCRKAROLENERTCCKDKPRR 41
 DB 1 CERRHLPVQTCCKSCKNTDSRCRKAROLENERTCCKDKPRR 41

RESULT 2
 AAE15417
 ID AAE15417 standard; Protein; 51 AA.
 AC AAE15417;
 XX
 DT 12-MAR-2002 (first entry)
 XX
 DE Human vascular endothelial growth factor 165 C-terminal protein fragment.
 XX
 KW Human; prophyllaxis; therapy; cellular proliferation; lysyl oxidase; LO;
 KW microorganism infection; angiogenesis; replication; teratocarcinoma;
 KW germ cell tumour; osteosarcoma; fibrosarcoma; angiogenic disease; AIDS;
 KW acquired immune deficiency syndrome; hyperplastic disease; inflammation;
 KW cancer; melanoma; lesion; wound; HIV-1; human immunodeficiency virus;
 KW vascular endothelial growth factor; VEGF165.
 XX
 OS Undifferentiated.
 XX
 FT Key Location/Qualifiers
 FT Domain 9..51
 FT /note="Lysine and arginine-rich basic domain"
 PN WO200185157-A1.
 XX
 PD 15-NOV-2001.
 XX
 PF 10-MAY-2001; 2001WO-US15191.
 XX
 PR 10-MAY-2000; 2000US-202568P.
 XX
 PA (UTBO-) UNIV BOSTON.
 XX
 PI Li W, Kagen HM;
 XX
 DR WPI, 2002-062187/08.

XX
 PT Composition for prophyllaxis and treatment of a condition associated
 PT with abnormal cellular proliferation, angiogenesis or microorganism
 PT infection, comprises active portion of an inhibitor, preferably lysyl
 PT oxidase -
 XX
 PS Disclosure; Fig 1, 97pp; English.
 XX
 CC The patent discloses compositions and methods for prophyllaxis and
 CC treatment of conditions associated with abnormal cellular proliferation,
 CC angiogenesis or microorganism infection. The composition comprises an
 CC active portion of an inhibitor, preferably lysyl oxidase (LO) which
 CC inactivates and oxidises a growth factor, angiogenic factor or a trans-
 CC activator for replication of the microorganism. The compositions of
 CC the invention are useful for prophyllaxis and treatment of conditions
 CC such as cancers of the breast, colon, renal, prostate, ovary, lung,
 CC brain, uterus, skin, embryo carcinoma, teratocarcinoma, germ cell
 CC tumour, osteosarcoma, fibrosarcoma, melanoma, angiogenic diseases,
 CC AIDS (acquired immune deficiency syndrome)-associated malignancies,
 CC other tumours and hyperplastic diseases with or without inflammation.
 CC It is also useful for treating diseases associated with angiogenesis,
 CC abnormal cellular proliferation, preferably human cell proliferation
 CC (e.g., tumour, lesion or wound), angiogenesis or conditions associated
 CC with microorganism infection such as AIDS caused by HIV-1. It is useful
 CC for modulating cellular proliferation and angiogenesis by contacting
 CC mitogenic and angiogenic factor and determining regulation of cell
 CC proliferation. The present sequence is vascular endothelial growth
 CC factor (VEGF) 165 C-terminal protein fragment. VEGF is a substrate
 CC for LO. The oxidation of lysine residues of VEGF by LO dramatically
 CC reduces their mitogenic potential and thus inhibits normal and tumour
 CC cell growth.
 CC
 XX Sequence 51 AA:
 SQ
 Query Match 86.9%; Score 206; DB 23; Length 51;
 Best Local Similarity 90.9%; Pred. No. 2.7e-15;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFPVQDPQTCCKSCKNTDSRCRKAROLENERTCCKDKPRR 41
 DB 8 ERRKHLFPVQDPQTCCKSCKNTDSRCRKAROLENERTCCKDKPRR 51

RESULT 3
 AAE15418
 ID AAE15418 standard; Protein; 75 AA.
 AC AAE15418;
 XX
 DT 12-MAR-2002 (first entry)
 XX
 DE Human vascular endothelial growth factor 189 C-terminal protein fragment.
 XX
 KW Human; prophyllaxis; therapy; cellular proliferation; lysyl oxidase; LO;
 KW microorganism infection; angiogenesis; replication; teratocarcinoma;
 KW germ cell tumour; osteosarcoma; fibrosarcoma; angiogenic disease; AIDS;
 KW acquired immune deficiency syndrome; hyperplastic disease; inflammation;
 KW cancer; melanoma; lesion; wound; HIV-1; human immunodeficiency virus;
 KW vascular endothelial growth factor; VEGF189.
 XX
 OS Undifferentiated.
 XX
 FT Key Location/Qualifiers
 FT Domain 2..75
 FT /note="Lysine and arginine-rich basic domain"
 PN WO200185157-A1.
 XX
 PD 15-NOV-2001.
 XX
 PF 10-MAY-2001; 2001WO-US15191.
 XX
 PR 10-MAY-2000; 2000US-202568P.

XX (UYBO-) UNIV BOSTON.
 PA Li W, Kagen HM;
 PI
 XX WPI; 2002-062187/08.
 DR
 XX Composition for prophylaxis and treatment of a condition associated
 PT with abnormal cellular proliferation, angiogenesis or microorganism
 PT infection, comprises active portion of an inhibitor, preferably lysyl
 PT oxidase -
 PS
 XX Disclosure; Fig 1; 97pp; English.
 CC The patent discloses compositions and methods for prophylaxis and
 CC treatment of conditions associated with abnormal cellular proliferation,
 CC angiogenesis or microorganism infection. The composition comprises an
 CC active portion of an inhibitor, preferably lysyl oxidase (LO) which
 CC inactivates and oxidises a growth factor, angiogenic factor or a trans-
 CC activator for replication of the microorganism. The compositions of
 CC the invention are useful for prophylaxis and treatment of conditions
 CC such as cancers of the breast, colon, renal, prostate, ovary, lung,
 CC brain, uterus, skin, embryo carcinoma, teratocarcinoma, germ cell
 CC tumour, osteosarcoma, fibrosarcoma, melanoma, angioleitic diseases,
 CC AIDS (acquired immune deficiency syndrome)-associated malignancies,
 CC other tumours and hyperplastic diseases with or without inflammation.
 CC It is also useful for treating diseases associated with angiogenesis,
 CC abnormal cellular proliferation, preferably human cell proliferation
 CC (e.g., tumour, lesion or wound), angiogenesis or conditions associated
 CC for modulating cellular proliferation and angiogenesis by contacting
 CC microorganism infection such as AIDS caused by HIV-1. It is useful
 CC for modulating cellular proliferation and determining regulation of cell
 CC mitogenic and angiogenic factor and determining regulation of cell
 CC proliferation. The present sequence is vascular endothelial growth
 CC factor (VEGF) 189 C-terminal protein fragment. VEGF is a substrate
 CC for LO. The oxidation of lysine residues of VEGF by LO dramatically
 CC reduces their mitogenic potential and thus inhibits normal and tumour
 CC cell growth.
 CC
 XX Sequence 75 AA;
 SQ
 Query Match 86.9%; Score 206; DB 23; Length 75;
 Best Local Similarity 90.9%; Pred. No. 3.8e-15;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;
 QY 2 ERRKHLFV--QTCKSCGKNTDSRCKAROLF-NERTCCKDKPRR 41
 DB 32 ERRKHLFVQDPQTCKSCGKNTDSRCKAROLF-NERTCCKDKPRR 75
 RESULT 4
 AAE15419
 ID AAE15419 standard; Protein; 92 AA.
 XX AAE15419;
 AC
 XX
 DT 12-MAR-2002 (first entry)
 XX
 DE Human vascular endothelial growth factor 206 C-terminal protein fragment.
 XX
 KW Human; prophylaxis; therapy; cellular proliferation; lysyl oxidase; LO;
 KW microorganism infection; angiogenesis; replication; teratocarcinoma;
 KW germ cell tumour; osteosarcoma; fibrosarcoma; angioleitic diseases; AIDS;
 KW acquired immune deficiency syndrome; hyperplastic disease; inflammation;
 KW cancer; melanoma; lesion; wound; HIV-1; human immunodeficiency virus;
 KW vascular endothelial growth factor; VEGF206.
 XX
 OS Undifferentiated.
 XX
 PN WO200185157-A1.
 PD 15-NOV-2001.
 PF 10-MAY-2001; 2001WO-US15191.

XX 10-MAY-2000; 2000US-202568P.
 PR
 XX (UYBO-) UNIV BOSTON.
 PA Li W, Kagen HM;
 PI
 XX WPI; 2002-062187/08.
 DR
 XX Composition for prophylaxis and treatment of a condition associated
 PT with abnormal cellular proliferation, angiogenesis or microorganism
 PT infection, comprises active portion of an inhibitor, preferably lysyl
 PT oxidase -
 PS
 XX Disclosure; Fig 1; 97pp; English.
 CC The patent discloses compositions and methods for prophylaxis and
 CC treatment of conditions associated with abnormal cellular proliferation,
 CC angiogenesis or microorganism infection. The composition comprises an
 CC active portion of an inhibitor, preferably lysyl oxidase (LO) which
 CC inactivates and oxidises a growth factor, angiogenic factor or a trans-
 CC activator for replication of the microorganism. The compositions of
 CC the invention are useful for prophylaxis and treatment of conditions
 CC such as cancers of the breast, colon, renal, prostate, ovary, lung,
 CC brain, uterus, skin, embryo carcinoma, teratocarcinoma, germ cell
 CC tumour, osteosarcoma, fibrosarcoma, melanoma, angioleitic diseases,
 CC AIDS (acquired immune deficiency syndrome)-associated malignancies,
 CC other tumours and hyperplastic diseases with or without inflammation.
 CC It is also useful for treating diseases associated with angiogenesis,
 CC abnormal cellular proliferation, preferably human cell proliferation
 CC (e.g., tumour, lesion or wound), angiogenesis or conditions associated
 CC with microorganism infection such as AIDS caused by HIV-1. It is useful
 CC for modulating cellular proliferation and determining regulation of cell
 CC mitogenic and angiogenic factor and determining regulation of cell
 CC proliferation. The present sequence is vascular endothelial growth
 CC factor (VEGF) 206 C-terminal protein fragment. VEGF is a substrate
 CC for LO. The oxidation of lysine residues of VEGF by LO dramatically
 CC reduces their mitogenic potential and thus inhibits normal and tumour
 CC cell growth.
 CC
 XX Sequence 92 AA;
 SQ
 Query Match 86.9%; Score 206; DB 23; Length 92;
 Best Local Similarity 90.9%; Pred. No. 4.5e-15;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;
 QY 2 ERRKHLFV--QTCKSCGKNTDSRCKAROLF-NERTCCKDKPRR 41
 DB 49 ERRKHLFVQDPQTCKSCGKNTDSRCKAROLF-NERTCCKDKPRR 92
 RESULT 5
 AAR10911
 ID AAR10911 standard; Protein; 164 AA.
 XX AAR10911;
 AC
 XX
 DT 25-MAR-2003 (updated)
 DT 08-MAY-1991 (first entry)
 XX
 DE Bovine vascular endothelial cell growth factor 164.
 XX
 KW Bovine vascular endothelial cell growth factor; angiogenesis;
 KW wound healing; VEGF; PDGF.
 XX
 OS Bos taurus.
 XX
 PN WO9102058-A.
 PD 21-FEB-1991.
 PF 27-JUL-1990; 90WO-US04227.

PR 14-DEC-1989; 89US-0450883.
 PR 27-JUL-1989; 89US-0387545.
 PA (CALD) CALIFORNIA BIOTECHNOLOGY INC.
 XX
 XX
 PI Tischer ER, Abraham, Fiddes JC, Mitchell RL,
 XX
 DR MPI; 1991-073534/10.
 DR N-PSDB; AAQ10791.
 PT DNA encoding vascular endothelial cell growth factor - used for
 PT producing the factor for angiogenesis and re-endothelialisation
 PT in wound healing
 XX
 PS Disclosure; Fig 6(1-3); 94pp; English.
 XX
 CC Bovine follicle stellate cells were used in the process of
 CC obtaining cDNA encoding bVEGF (164 amino acids from). The probes
 CC represented in AAQ10806 and -07 were used in the screening procedures.
 CC See AAQ10796 for bVEGF120 which is obtained by alternative splicing of
 CC this sequence, i.e. bases 342-473 (amino acids 115-158) are spliced.
 CC The product can be used for angiogenesis and re-endothelialisation
 CC of inner vascular surfaces in wound healing, e.g. treatment of full-
 CC thickness wounds such as dermal ulcers, venous ulcers and diabetic
 CC ulcers, burns, in surgery, in balloon angioplasty and for the in
 CC vitro culturing of endothelial cells. Hybrid growth factors of PDGF
 CC and VEGF can exhibit a mitogenic profile between each factor and
 CC can be used for wound healing or as inhibitors of angiogenesis for
 CC e.g. preventing the growth of tumours.
 CC VEGF analogues in which CYS residues are substd. are more stable.
 CC See also AAQ10791-93; AAQ10796-97; AAQ10806-08 and AAQ11099.
 CC (Updated on 25-MAR-2003 to correct PA field.)
 XX
 SQ Sequence 164 AA;

Query Match 86.9%; Score 206; DB 12; Length 164;
 Best Local Similarity 90.9%; Pred. No. 7.6e-15;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKHLFV---QTCKSCKNTDSRCKAROLE-NERTCRDCKPRR 41
 |||||
 DB 121 ERRKHLFVQDPQTCKSCKNTDSRCKAROLEINERTCRDCKPRR 164

RESULT 6

AAK38920
 ID AAK38920 standard; Protein; 164 AA.
 XX
 AC AAK38920;

DT 25-MAR-2003 (updated)
 DT 28-OCT-1993 (first entry)

DE Bovine VEGF-164.

XX Angiogenesis; wound healing; mitogen; vascular endothelial cells;
 KW Vascular Endothelial Cell Growth Factor; bVEGF-164; bVEGF-120.
 XX
 OS Bos.

XX Key Location/Qualifiers
 FH 114..158
 FT Region /note= "encoded by exon which is absent in the
 FT alternatively spliced coding sequence
 FT which encodes bVEGF-120"

XX US5219739-A.
 XX 15-JUN-1993.
 XX 27-JUL-1990; 90US-0559041.
 XX 27-JUL-1989; 89US-0387545.
 PR

PR 14-DEC-1989; 89US-0450883.
 PR 27-JUL-1990; 90US-0559041.
 XX
 XX
 PA (SCIO-) SCIOS NOVA INC.
 XX
 XX
 PI Abraham JA, Fiddes JC, Mitchell RL, Tischer EG,
 XX
 DR MPI; 1993-205302/25.
 DR P-PSDB; AAQ44259.

PT Isolated DNA sequences, expression vectors and transformant cells
 PT - used for large scale prodn. of vascular endothelial cell growth
 PT factor, for treating wounds in which neo-vascularisation is
 PT required
 XX
 PS Example 4 and Claim 1; Fig 6; 40pp; English.

XX The sequence of AAQ44259 contains an open reading frame corresponding
 CC to the 164 amino acid bovine vascular endothelial cell growth
 CC factor (bVEGF-164; i.e. AAK38920). Alternative splicing of the
 CC sequence gives a shorter coding sequence which encodes the 120
 CC amino acid bVEGF (see AAK38916).
 CC (Updated on 25-MAR-2003 to correct PF field.)
 XX

SQ Sequence 164 AA;
 Query Match 86.9%; Score 206; DB 14; Length 164;
 Best Local Similarity 90.9%; Pred. No. 7.6e-15;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKHLFV---QTCKSCKNTDSRCKAROLE-NERTCRDCKPRR 41
 |||||
 DB 121 ERRKHLFVQDPQTCKSCKNTDSRCKAROLEINERTCRDCKPRR 164

RESULT 7

AAK38921
 ID AAK38921 standard; Protein; 165 AA.
 XX

AC AAK38921;

DT 25-MAR-2003 (updated)
 DT 28-OCT-1993 (first entry)

DE Human VEGF-165.

XX Angiogenesis; wound healing; mitogen; vascular endothelial cells;
 KW Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.
 XX

OS Homo sapiens.

XX Key Location/Qualifiers
 FH Misc-difference 7
 FT Region /note= "inserted amino acid relative to bVEGF"
 FT 115..159
 FT /note= "replaced by Lys in hVEGF-121"

XX US5219739-A.
 XX 15-JUN-1993.
 XX 27-JUL-1990; 90US-0559041.
 XX 27-JUL-1989; 89US-0387545.
 PR 14-DEC-1989; 89US-0450883.
 PR 27-JUL-1990; 90US-0559041.
 XX
 XX (SCIO-) SCIOS NOVA INC.
 XX Abraham JA, Fiddes JC, Mitchell RL, Tischer EG,
 XX
 DR MPI; 1993-205302/25.
 DR N-PSDB; AAQ44260.

XX	Isolated DNA sequences, expression vectors and transformant cells
PT	- used for large scale prodn. of vascular endothelial cell growth
PT	factor, for treating wounds in which neo-vascularisation is
PT	required
XX	
PS	Example 7; Fig 7; 40pp; English.
XX	
CC	The sequence of AAQ44260 contains an open reading frame corresponding
CC	to the 165 amino acid human vascular endothelial cell growth
CC	factor (hVEGF-165, see AAR38921). Alternative splicing of the
CC	sequence gives a shorter coding sequence which encodes the 121
CC	amino acid hVEGF (see AAR42607). The full-length coding sequences can
CC	be generated using PCR with human foetal vascular smooth muscle
CC	poly-A ⁺ RNA as template.
CC	(Updated on 25-MAR-2003 to correct PF field.)
XX	
SQ	Sequence 165 AA;
XX	
Query Match	86.9%; Score 206; DB 14; Length 165;
Best Local Similarity	90.9%; Pred. No. 7,6e-15;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2	
Qy	2 ERRKILFV---QTCKSCGNTDSRCARQLE-NERTCGRDKPRR 41
Db	122 ERRKILFVQDPOTCKCKSCNDSDRCARQLEINERTCGRDKPRR 165
RESULT 8	
AAW31085	
ID	AAW31085 standard; Protein; 165 AA.
XX	
AC	AAW31085;
XX	
DT	16-JAN-1998 (first entry)
XX	
DE	Vascular endothelial growth factor variant used in drug screening.
XX	
XX	VEGF; vascular endothelial growth factor; variant; mutant;
KW	substitution; drug screening; kinase domain binding region; KDR;
KW	FMS-like tyrosine kinase binding region; FLT-1; drug screening;
KW	testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
KW	neoplasia.
XX	
OS	Homo sapiens.
OS	Synthetic.
XX	
XX	
FH	Key Location/Qualifiers
FT	Misc-difference 63 /note= "wild-type Asp replaced by Ala"
FT	Misc-difference 64 /note= "wild-type Glu replaced by Ala"
FT	Misc-difference 67 /note= "wild-type Glu replaced by Ala"
FT	
XX	
PN	W09708313-Al.
XX	
PD	06-MAR-1997.
XX	
PF	23-AUG-1996; 96WO-US13621.
XX	
XX	02-AUG-1996; 96US-0691791.
PR	25-AUG-1995; 95US-0002827.
PR	05-DEC-1995; 95US-0567200.
XX	
PA	(GETH) GENENTECH INC.
XX	
PI	Cunningham BC, Ferrara N, Keyt B, Li B, Nguyen FH;
PI	Wells JA;
XX	
XX	WPI, 1997-179270/16.
DR	
XX	
PT	Vascular endothelial cell growth factor variant - used to identify

Query Match	Best Local Similarity	Score	DB ID	Length
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2	86.9%; 90.9%;	206; 18;	DB 165	165;
2 ERRHLLFV---QTCKSCCKNTDSRCKARQLE-NERTCRCDKPRR 41	122 ERRHLLFVQDPQTCCKSCCKNTDSRCKARQLELNERTCRCDKPRR 165			
RESULT 9				
AAW31086	AAW31086 standard; Protein: 165 AA.			
AAW31086;				
16-JAN-1998 (first entry)				
Vascular endothelial growth factor variant used in drug screening.				
VEGF; vascular endothelial growth factor; variant; mutant; substitution; drug screening; kinase domain binding region; KDR; PMS-like tyrosine kinase binding region; FLT-1; drug screening; testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour; neoplasia.				
Homo sapiens.				
Synthetic.				
Key	Location/Qualifiers			
Misc-difference 82	/note= "wild-type Arg replaced by Ala"			
Misc-difference 84	/note= "wild-type Lys replaced by Ala"			
Misc-difference 86	/note= "wild-type His replaced by Ala"			
W09708313-Al.				
06-MAR-1997.				
23-AUG-1996;	96WO-US13621.			
02-AUG-1996;	96US-0691791.			
25-AUG-1995;	95US-0002827.			
05-DEC-1995;	95US-0567200.			
(GETH) GENENTECH INC.				
Cunningham BC, Ferrara N, Keyt B, Li B, Nguyen PH; Wells JA;				
WPI; 1997-179270/16.				

XX	Vascular endothelial cell growth factor variant - used to identify
PT	candidates having agonistic or antagonistic properties with respect
PT	to KDR and/or Flt receptor binding
PS	
XX	Claim 6; Page -, 130p; English.
CC	
CC	AAW31085-W31096 are vascular endothelial growth factor (VEGF) variants.
CC	Especially preferred modifications comprise mutations in the kinase
CC	domain binding region (KDR) or the FMS-like tyrosine kinase binding
CC	region (Flt-1). All indicated residues are preferably replaced with
CC	alanine. The variants may be used in an assay for identifying
CC	candidate compositions having agonistic or antagonistic properties
CC	with respect to KDR and/or Flt receptor binding, by measuring the
CC	effect the candidate has on the binding properties of the variants
CC	to the KDR and/or Flt-1 receptors. Compositions identified may be
CC	useful for treating indications where vasculogenesis or angiogenesis
CC	is desired for treatment of an underlying disease state.
CC	N.B. This sequence is not given in the specification, it was created
CC	from a claimed specified mutant of wild-type mature VEGF.
XX	
SQ	Sequence 165 AA;
Query Match	86.9%; Score 206; DB 18; Length 165;
Best Local Similarity	90.9%; Pred. No. 7.6e-15;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2	
OY	2 ERRKLIV--QTCKSCNKTDTSRCAQLR-NERTCRDKRR 41
Dd	122 ERRKLIVQDPOTCKSCKNFTDSRCAQLRLNERTCRDKRR 165
RESULT 10	
ID	AAW31087
ID	AAW31087 standard; Protein; 165 AA.
AC	
XX	AAW31087;
DT	
XX	16-JAN-1998 (first entry)
DE	
XX	Vascular endothelial growth factor variant used in drug screening.
KW	
KW	VEGF: vascular endothelial growth factor; variant; mutant;
KW	substitution; drug screening; kinase domain binding region; KDR;
KW	FMS-like tyrosine kinase binding region; Flt-1; drug screening;
KW	testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
neoplasia.	
OS	Homo sapiens.
OS	Synthetic.
XX	
Key	Location/Qualifiers
FT	Misc-difference 63
FT	/note= "wild-type Asp replaced by Ala"
FT	Misc-difference 64
FT	/note= "wild-type Glu replaced by Ala"
FT	Misc-difference 67
FT	/note= "wild-type Glu replaced by Ala"
FT	Misc-difference 82
FT	/note= "wild-type Arg replaced by Ala"
FT	Misc-difference 84
FT	/note= "wild-type Lys replaced by Ala"
FT	Misc-difference 86
FT	/note= "wild-type His replaced by Ala"
XX	
EN	WO9708313-A1.
XX	
PD	06-MAR-1997.
PF	
XX	23-AUG-1996; 96WO-US13621.
XX	
PR	02-AUG-1996; 96US-0691791.
PR	25-AUG-1995; 95US-0002827.

PR	05-DEC-1995;	95US-0567200.
XX		
PA	(GETH) GENENTECH INC.	
P1	Cunningham BC, Ferrara N, Keyt B, Li B, Nguyen FH,	
P1	Wells JA,	
XX		
DR	WPI, 1997-179270/16.	
PT	Vascular endothelial cell growth factor variant - used to identify	
PT	candidates having agonistic or antagonistic properties with respect	
PT	to KDR and/or FLT receptor binding	
XX		
PS	Claim 6; Page -: 130pp; English.	
XX		
CC	AAMJ1085-W31096 are vascular endothelial growth factor (VEGF) variants.	
CC	Especially preferred modifications comprise mutations in the kinase	
CC	domain binding region (KDR) or the FMS-like tyrosine kinase binding	
CC	region (FLT-1). All indicated residues are preferably replaced with	
CC	alanine. The variants may be used in an assay for identifying	
CC	candidate compositions having agonistic or antagonistic properties	
CC	with respect to KDR and/or FLT receptor binding, by measuring the	
CC	effect the candidate has on the binding properties of the variants	
CC	to the KDR and/or FLT-1 receptors. Compositions identified may be	
CC	useful for treating indications where vasculogenesis or angiogenesis	
CC	is desired for treatment of an underlying disease state.	
CC	N.B. This sequence is not given in the specification, it was created	
CC	from a claimed specified mutant of wild-type mature VEGF.	
SQ	Sequence 165 AA;	
Query Match	86.9%;	Score 206; DB 18; Length 165;
Best Local Similarity	90.9%;	Pred. No. 7,6e-15;
Matches 40;	Conservative 0;	Mismatches 0; Indels 4; Gaps 2.
Oy	2 ERRKHLFY---QTCKSCSKNTDSRCKAROLE-NERTCXCDPRR 41 	
Db	122 ERKHLPVODPQTCKSCGNTDSCKARQLELNERTCXCDPRR 165	
RESULT 11		
ID AAMJ1088		
AAWJ1088 standard; Protein; 165 AA.		
AC AAWJ1088;		
XX		
DT 16-JAN-1998 (first entry)		
XX		
DE Vascular endothelial growth factor variant used in drug screening.		
XX		
VEGF; vascular endothelial growth factor; variant; mutant; KW substitution; drug screening; kinase domain binding region; KDR; KW FMS-like tyrosine kinase binding region; FLT-1; drug screening; KW testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour; neoplasia.		
XX		
OS Homo sapiens.		
OS Synthetic.		
XX		
FH Location/Qualifiers		
FT Misc-difference 46 /note= "wild-type Ile replaced by Ala"		
FT Misc-difference 79 /note= "wild-type Glu replaced by Ala"		
FT Misc-difference 83 /note= "wild-type Ile replaced by Ala"		
FT		
XX WO9708313-A1.		
XX		
PD 06-MAR-1997.		
XX		
PF 23-AUG-1996; 96WO-US13621.		
XX		

FT /note= "wild-type Glu replaced by Ala"
 FT Misc-difference 83
 FT /note= "wild-type Ile replaced by Ala"
 XX
 XX W09708313-A1.
 XX
 XX 06-MAR-1997.
 XX
 XX 23-AUG-1996; 96WO-US13621.
 XX
 XX 02-AUG-1996; 96US-0691791.
 XX 25-AUG-1995; 95US-0002827.
 XX 05-DEC-1995; 95US-0567200.
 XX
 XX (GETH) GENENTECH INC.
 XX
 XX Cunningham BC, Ferrara N, Keyt B, Li B, Nguyen FH;
 PI Wells JA;
 PI
 DR WPI; 1997-179270/16.
 XX
 XX Vascular endothelial cell growth factor variant - used to identify
 PT candidates having agonistic or antagonistic properties with respect
 PT to KDR and/or FLT receptor binding
 XX
 XX Claim 18; Page -; 130pp; English.
 XX
 XX AAW31085-W31096 are vascular endothelial growth factor (VEGF) variants.
 CC Especially preferred modifications comprise mutations in the kinase
 CC domain binding region (KDR) or the FMS-like tyrosine kinase binding
 CC region (FLT-1). All indicated residues are preferably replaced with
 CC alanine. The variants may be used in an assay for identifying
 CC candidate compositions having agonistic or antagonistic properties
 CC with respect to KDR and/or FLT receptor binding, by measuring the
 CC effect the candidate has on the binding properties of the variants
 CC to the KDR and/or FLT-1 receptors. Compositions identified may be
 CC useful for treating indications where vasculogenesis or angiogenesis
 CC is desired for treatment of an underlying disease state.
 CC N.B. This sequence is not given in the specification, it was created
 CC from a claimed specified mutant of wild-type mature VEGF.
 XX
 XX Sequence 165 AA;
 SQ
 Query Match 86.9%; Score 206; DB 18; Length 165;
 Best Local Similarity 90.9%; Pred. No. 7.6e-15;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;
 OY 2 ERRKHLFV--QTCKSCKNTDSRCKARQLE-NERTCRCDKPRR 41
 |||||
 DB 122 ERRKHLFVQDPQTKCKSCKNTDSRCKARQLEINERTCRCDKPRR 165
 |||||
 RESULT 14
 AAW31091
 ID AAW31091 standard; Protein; 165 AA.
 XX
 XX AAW31091;
 AC
 XX
 XX 16-JAN-1998 (first entry)
 DT
 XX Vascular endothelial growth factor variant used in drug screening.
 DE
 XX VEGF; vascular endothelial growth factor; variant; mutant;
 XX substitution; drug screening; kinase domain binding region; KDR;
 KW FMS-like tyrosine kinase binding region; FLT-1; drug screening;
 KW testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
 KW neoplasia.
 XX
 XX Homo sapiens.
 OS
 XX Synthetic.
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 46

FT /note= "wild-type Ile replaced by Ala"
 FT Misc-difference 64
 FT /note= "wild-type Glu replaced by Ala"
 FT Misc-difference 83
 FT /note= "wild-type Ile replaced by Ala"
 XX
 XX W09708313-A1.
 XX
 XX 06-MAR-1997.
 XX
 XX 23-AUG-1996; 96WO-US13621.
 XX
 XX 02-AUG-1996; 96US-0691791.
 XX 25-AUG-1995; 95US-0002827.
 XX 05-DEC-1995; 95US-0567200.
 XX
 XX (GETH) GENENTECH INC.
 XX
 XX Cunningham BC, Ferrara N, Keyt B, Li B, Nguyen FH;
 PI Wells JA;
 PI
 DR WPI; 1997-179270/16.
 XX
 XX Vascular endothelial cell growth factor variant - used to identify
 PT candidates having agonistic or antagonistic properties with respect
 PT to KDR and/or FLT receptor binding
 XX
 XX Claim 22; Page -; 130pp; English.
 XX
 XX AAW31085-W31096 are vascular endothelial growth factor (VEGF) variants.
 CC Especially preferred modifications comprise mutations in the kinase
 CC domain binding region (KDR) or the FMS-like tyrosine kinase binding
 CC region (FLT-1). All indicated residues are preferably replaced with
 CC alanine. The variants may be used in an assay for identifying
 CC candidate compositions having agonistic or antagonistic properties
 CC with respect to KDR and/or FLT receptor binding, by measuring the
 CC effect the candidate has on the binding properties of the variants
 CC to the KDR and/or FLT-1 receptors. Compositions identified may be
 CC useful for treating indications where vasculogenesis or angiogenesis
 CC is desired for treatment of an underlying disease state.
 CC N.B. This sequence is not given in the specification, it was created
 CC from a claimed specified mutant of wild-type mature VEGF.
 XX
 XX Sequence 165 AA;
 SQ
 Query Match 86.9%; Score 206; DB 18; Length 165;
 Best Local Similarity 90.9%; Pred. No. 7.6e-15;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;
 OY 2 ERRKHLFV--QTCKSCKNTDSRCKARQLE-NERTCRCDKPRR 41
 |||||
 DB 122 ERRKHLFVQDPQTKCKSCKNTDSRCKARQLEINERTCRCDKPRR 165
 |||||
 RESULT 15
 AAW31092
 ID AAW31092 standard; Protein; 165 AA.
 XX
 XX AAW31092;
 AC
 XX
 XX 16-JAN-1998 (first entry)
 DT
 XX Vascular endothelial growth factor variant used in drug screening.
 DE
 XX VEGF; vascular endothelial growth factor; variant; mutant;
 XX substitution; drug screening; kinase domain binding region; KDR;
 KW FMS-like tyrosine kinase binding region; FLT-1; drug screening;
 KW testing; vasculogenesis; angiogenesis; metastasis; cancer; tumour;
 KW neoplasia.
 XX
 XX Homo sapiens.
 OS
 XX Synthetic.
 XX

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:35:33 ; Search time 17.4513 Seconds
(without alignments)
99.405 Million cell updates/sec

Title: US-09-266-543-6

Perfect score: 237
Sequence: 1 CERKHLFVQTCCKSCKNNTD.....RCKARQLENERTCRCCKPRR 41

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database : Issued Patents, AA:*

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2: /cgn2_6/ptodata/1/1aa/5B.COMB.pep:*
3: /cgn2_6/ptodata/1/1aa/6A.COMB.pep:*
4: /cgn2_6/ptodata/1/1aa/6B.COMB.pep:*
5: /cgn2_6/ptodata/1/1aa/PTCUS.COMB.pep:*
6: /cgn2_6/ptodata/1/1aa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	206	86.9	164	5194596-17	Patent No. 5194596
2	206	86.9	164	5219739-17	Patent No. 5219739
3	206	86.9	164	5219739-18	Patent No. 5219739
4	206	86.9	165	US-08-882-816-3	Sequence 3, Appl1
5	206	86.9	165	US-08-802-052B-3	Sequence 3, Appl1
6	206	86.9	165	5194596-18	Patent No. 5194596
7	206	86.9	165	5219739-19	Patent No. 5219739
8	206	86.9	189	US-08-469-427A-15	Sequence 15, Appl1
9	206	86.9	190	US-08-569-063C-20	Sequence 20, Appl1
10	206	86.9	190	US-08-586-039B-31	Sequence 31, Appl1
11	206	86.9	190	US-09-699-769-31	Sequence 31, Appl1
12	206	86.9	190	5332671-3	Patent No. 5332671
13	206	86.9	191	US-08-567-200A-2	Sequence 2, Appl1
14	206	86.9	191	US-08-807-992B-2	Sequence 2, Appl1
15	206	86.9	191	US-08-691-794-2	Sequence 2, Appl1
16	206	86.9	191	US-08-795-430-56	Sequence 56, Appl1
17	206	86.9	191	US-09-392-932-3	Sequence 3, Appl1
18	206	86.9	191	US-09-355-700-56	Sequence 56, Appl1
19	206	86.9	191	US-08-882-816-2	Sequence 2, Appl1
20	206	86.9	191	US-09-574-708A-6	Sequence 6, Appl1
21	206	86.9	191	US-08-802-052B-2	Sequence 2, Appl1
22	206	86.9	191	5332671-4	Patent No. 5332671
23	206	86.9	208	US-09-244-583-26	Sequence 26, Appl1
24	206	86.9	213	US-09-574-708A-8	Sequence 8, Appl1
25	206	86.9	214	US-08-586-039B-35	Sequence 35, Appl1
26	206	86.9	214	US-09-699-769-35	Sequence 35, Appl1
27	206	86.9	214	5240848-11	Patent No. 5240848

28	206	86.9	215	3	US-08-807-992B-3	Sequence 3, Appl1
29	206	86.9	215	3	US-08-586-039B-49	Sequence 49, Appl1
30	206	86.9	215	3	US-08-699-769-49	Sequence 49, Appl1
31	206	86.9	215	6	5219739-22	Patent No. 5219739
32	206	86.9	215	6	5240848-7	Patent No. 5240848
33	206	86.9	231	5	PCT-US96-09001-10	Sequence 10, Appl1
34	206	86.9	232	2	US-08-999-811-7	Sequence 7, Appl1
35	206	86.9	232	2	US-08-824-996-9	Sequence 9, Appl1
36	206	86.9	232	3	US-08-807-992B-4	Sequence 4, Appl1
37	206	86.9	232	3	US-09-042-105-7	Sequence 7, Appl1
38	206	86.9	232	4	US-09-574-708A-10	Sequence 10, Appl1
39	199	84.0	191	4	US-09-431-888-4	Sequence 4, Appl1
40	164	69.2	43	4	US-09-244-583-20	Sequence 20, Appl1
41	100	42.2	17	3	US-08-807-992B-29	Sequence 29, Appl1
42	89.5	37.8	19	3	US-08-807-992B-13	Sequence 13, Appl1
43	89.5	37.8	19	3	US-08-807-992B-16	Sequence 16, Appl1
44	89.5	37.8	19	3	US-08-807-992B-30	Sequence 30, Appl1
45	89.5	37.8	19	3	US-08-807-992B-30	Sequence 30, Appl1

ALIGNMENTS

```
RESULT 1
5194596-17
; Patent No. 5194596
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDES, JOHN
; C. MITCHELL, RICHARD L.
; TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
; GROWTH FACTOR
; NUMBER OF SEQUENCES: 32
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/450,883
; FILING DATE: 14-DEC-1989
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO:17:
; LENGTH: 164
5194596-17

Query Match      86.9%; Score 206; DB 6; Length 164;
Best Local Similarity 90.9%; Pred. No. 1.1e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY      2 ERRKHLFV---QTCCKSCKNNTDSRCKARQLENERTCRCCKPRR 41
DB      121 ERRKHLFVQDPQTCCKSCKNNTDSRCKARQLENERTCRCCKPRR 164

RESULT 2
5219739-17
; Patent No. 5219739
; APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDES,
; JOHN C. MITCHELL, RICHARD L.
; TITLE OF INVENTION: DNA SEQUENCES ENCODING BVESG120 AND
; BVESG 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
; VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVESG120 AND BVESG121
; NUMBER OF SEQUENCES: 40
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/559,041
; FILING DATE: 27-JUL-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 450,883
; FILING DATE: 14-DEC-1989
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO:17:
; LENGTH: 164
5219739-17

Query Match      86.9%; Score 206; DB 6; Length 164;
Best Local Similarity 90.9%; Pred. No. 1.1e-16;
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Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCKNTDSRCKAROLE-NERTCRCKPR 41
Db 121 ERRKHLFVODPOTCKSCKNTDSRCKAROLELNERTCRCKPR 164

RESULT 3

5219739-18
Patent No. 5219739
APPLICANT: TISCHER, EDMOND G.; ABRAHAM, JUDITH A.; FIDES,
JOHN C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGPF120 AND
HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGPF120 AND HVEGF121
NUMBER OF SEQUENCES: 40
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 18:
LENGTH: 164
5219739-18

Query Match 86.9%; Score 206; DB 6; Length 164;
Best Local Similarity 90.9%; Pred. No. 1.1e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCKNTDSRCKAROLE-NERTCRCKPR 41
Db 121 ERRKHLFVODPOTCKSCKNTDSRCKAROLELNERTCRCKPR 164

RESULT 4

US-08-882-816-3
Sequence 3, Application US/08882816
Patent No. 6395707
GENERAL INFORMATION:
APPLICANT: Zioncheck, Thomas F.
APPLICANT: Deguzman, Geraldyn G.
APPLICANT: Keck, Rodney G.
APPLICANT: Richard, Brigitte M.
TITLE OF INVENTION: VARIANTS OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR HAVING ALTERED PHARMACOLOGICAL PROPERTIES,
TITLE OF INVENTION: AND RELATED ASPECTS THEREOF
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr Hobbach Test Albritton & Herbert LLP
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/882,816
FILING DATE: 26-JUN-1997
CLASSIFICATION: 536
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/802,052
FILING DATE: 14-FEB-1997
ATTORNEY/AGENT INFORMATION:
NAME: Vance, Dolly A.
REGISTRATION NUMBER: 39,054

REFERENCE/DOCKET NUMBER: A-64957/WHD/DAV
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299

INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 165 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
US-08-882-816-3

Query Match 86.9%; Score 206; DB 4; Length 165;
Best Local Similarity 90.9%; Pred. No. 1.2e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCKNTDSRCKAROLE-NERTCRCKPR 41
Db 122 ERRKHLFVODPOTCKSCKNTDSRCKAROLELNERTCRCKPR 165

RESULT 5

US-08-802-052B-3
Sequence 3, Application US/08802052B
Patent No. 6485942
GENERAL INFORMATION:
APPLICANT: Zioncheck, Thomas F.
APPLICANT: Deguzman, Geraldyn G.
APPLICANT: Keck, Rodney G.
TITLE OF INVENTION: VARIANTS OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR HAVING ALTERED PHARMACOLOGICAL PROPERTIES,
TITLE OF INVENTION: AND RELATED ASPECTS THEREOF
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/802,052B
FILING DATE: 14-FEB-1997
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Vance, Dolly A.
REGISTRATION NUMBER: 39,054
REFERENCE/DOCKET NUMBER: A-64069/WHD/DAV
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 165 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
US-08-802-052B-3

Query Match 86.9%; Score 206; DB 4; Length 165;
Best Local Similarity 90.9%; Pred. No. 1.2e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCKNTDSRCKAROLE-NERTCRCKPR 41

Db 122 ERRKLFVQDPQTCCKSCNTDSRCKARQLEINERTCRCDKPR 165

RESULT 6
5194596-18

Patent No. 5194596
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR
NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 18:
LENGTH: 165

Query Match 86.9%; Score 206; DB 6; Length 165;
Best Local Similarity 90.9%; Pred. No. 1.2e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKLFV---OTCKSCNTDSRCKARQLE-NERTCRCDKPR 41
Db 122 ERRKLFVQDPQTCCKSCNTDSRCKARQLEINERTCRCDKPR 165

RESULT 7
5219739-19

Patent No. 5219739
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
JOHN C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGF120 AND
HVGF121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGF120 AND HVGF121
NUMBER OF SEQUENCES: 40
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 19:
LENGTH: 165

Query Match 86.9%; Score 206; DB 6; Length 165;
Best Local Similarity 90.9%; Pred. No. 1.2e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKLFV---OTCKSCNTDSRCKARQLE-NERTCRCDKPR 41
Db 122 ERRKLFVQDPQTCCKSCNTDSRCKARQLEINERTCRCDKPR 165

RESULT 8
US-08-469-427A-15

Sequence 15, Application US/08469427A
Patent No. 5607918
GENERAL INFORMATION:
APPLICANT: Eriksson, Ulf
APPLICANT: Olofsson, Birgitta
APPLICANT: Alitalo, Kari
APPLICANT: Pajusola, Katri
TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND
TITLE OF INVENTION: DNA CODING THEREFOR
NUMBER OF SEQUENCES: 17

CORRESPONDENCE ADDRESS:

ADDRESSEE: Evenson, McKeown, Edwards & Lenahan
STREET: 1200 G Street, N.W., Suite 700
CITY: Washington
STATE: DC
ZIP: 20005

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/469,427A
FILING DATE: 06-JUN-1995

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995

ATTORNEY/AGENT INFORMATION:

NAME: Evans, Joseph D

REGISTRATION NUMBER: 26,269

REFERENCE/DOCKET NUMBER: 41979cp2

TELECOMMUNICATION INFORMATION:

TELEPHONE: (202) 628-8800

TELEFAX: (202) 628-8844

INFORMATION FOR SEQ ID NO: 15:

SEQUENCE CHARACTERISTICS:

LENGTH: 189 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-469-427A-15

Query Match 86.9%; Score 206; DB 1; Length 189;
Best Local Similarity 90.9%; Pred. No. 1.3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKLFV---OTCKSCNTDSRCKARQLE-NERTCRCDKPR 41
Db 146 ERRKLFVQDPQTCCKSCNTDSRCKARQLEINERTCRCDKPR 189

RESULT 9

US-08-569-063C-20

Sequence 20, Application US/08569063C
Patent No. 5928939

GENERAL INFORMATION:

APPLICANT: ERIKSSON, Ulf

APPLICANT: OLOFSSON, Birgitta

APPLICANT: ALITALO, Kari

APPLICANT: PAJUSOLA, Katri

TITLE OF INVENTION: VASCULAR ENDOTHELIAL GROWTH FACTOR-B AND

TITLE OF INVENTION: DNA CODING THEREFOR

NUMBER OF SEQUENCES: 23

CORRESPONDENCE ADDRESS:

ADDRESSEE: Evenson, McKeown, Edwards & Lenahan, P.L.L.C.

STREET: 1200 G Street, N.W., Suite 700

CITY: Washington

STATE: DC

COUNTRY: USA

ZIP: 20005

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: Patent in Release #1.0, Version #1.25

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/569,063C
FILING DATE: 06-DEC-1995

PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/469,427
FILING DATE: 06-JUN-1995

PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/397,651
FILING DATE: 01-MAR-1995
ATTORNEY/AGENT INFORMATION:
NAME: EVANS, Joseph D
REGISTRATION NUMBER: 26,269
REFERENCE/DOCKET NUMBER: 1064/41979CP3
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 628-8800
TELEFAX: (202) 628-8844
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-569-063C-20

Query Match 86.9%; Score 206; DB 2; Length 190;
Best Local Similarity 90.9%; Pred. No. 1.3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

Db 147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

RESULT 10
US-08-586-039B-31
Sequence 31, Application US/08586039B
Patent No. 6140073
GENERAL INFORMATION:
APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C
TITLE OF INVENTION: SUBUNIT
NUMBER OF SEQUENCES: 49
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
CITY: Rahway
STATE: New Jersey
COUNTRY: USA
ZIP: 07065-0900
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/586,039B
FILING DATE: 16-JAN-1996
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DA
TELECOMMUNICATION INFORMATION:
TELEPHONE: (908) 594-3905
TELEFAX: (908) 594-4720
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein

US-08-586-039B-31

Query Match 86.9%; Score 206; DB 3; Length 190;
Best Local Similarity 90.9%; Pred. No. 1.3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

Db 147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

RESULT 11
US-09-699-769-31
Sequence 31, Application US/09699769
Patent No. 6569434
GENERAL INFORMATION:
APPLICANT: Bayne, Marvin L.
APPLICANT: Thomas Jr., Kenneth A.
TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR C SUBUNIT
NUMBER OF SEQUENCES: 49
CORRESPONDENCE ADDRESS:
ADDRESSEE: Merck & Co., Inc.
STREET: 126 E. Lincoln Avenue
CITY: Rahway
STATE: New Jersey
COUNTRY: USA
ZIP: 07065-0900
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Microsoft Word 6
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/699,769
FILING DATE: 30-OCT-2000
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/586,039
FILING DATE: 16-JAN-1996
APPLICATION NUMBER: 08/124,259
FILING DATE: 20-SEP-1993
APPLICATION NUMBER: 07/676,436
FILING DATE: 28-MAR-1991
ATTORNEY/AGENT INFORMATION:
NAME: Hand, J. Mark
REGISTRATION NUMBER: 36,545
REFERENCE/DOCKET NUMBER: 18361DB
TELECOMMUNICATION INFORMATION:
TELEPHONE: (732) 594-3905
TELEFAX: (732) 594-4720
INFORMATION FOR SEQ ID NO: 31:
SEQUENCE CHARACTERISTICS:
LENGTH: 190 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 31:
US-09-699-769-31

Query Match 86.9%; Score 206; DB 4; Length 190;
Best Local Similarity 90.9%; Pred. No. 1.3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

Db 147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

RESULT 12
5332671-3
Patent No. 5332671

APPLICANT: FERRARA, NAPOLEONE, LEUNG, DAVID W. H.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR AND DNA ENCODING SAME
NUMBER OF SEQUENCES: 15
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/389,722
FILING DATE: 04-AUG-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 369,424
FILING DATE: 21-JUN-1989
APPLICATION NUMBER: 351,117
FILING DATE: 12-MAY-1989
SEQ ID NO: 3
LENGTH: 190
5332671-3

Query Match 86.9%; Score 206; DB 6; Length 190;
Best Local Similarity 90.9%; Pred. No. 1.3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKLFV---QTCKSCKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 147 ERRKLFVQDPQTCCKSCKNTDSRCKAROLELNERTCRCDKPRR 190

RESULT 13
US-08-567-200A-2
Sequence 2, Application US/08567200A
Patent No. 6020473
GENERAL INFORMATION:
APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Ferrara, Napoleone
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
NUMBER OF SEQUENCES: 42
CORRESPONDENCE ADDRESS:
ADDRESSES: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/567,200A
FILING DATE: 05-DEC-1995
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-62326-1/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-567-200A-2

Query Match 86.9%; Score 206; DB 3; Length 191;
Best Local Similarity 90.9%; Pred. No. 1.3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKLFV---QTCKSCKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 148 ERRKLFVQDPQTCCKSCKNTDSRCKAROLELNERTCRCDKPRR 191

RESULT 14
US-08-807-992B-2
Sequence 2, Application US/08807992B
Patent No. 6022541
GENERAL INFORMATION:
APPLICANT: Senger, Donald R
APPLICANT: Dvorak, Harold F
TITLE OF INVENTION: Immunological preparation for concurrent
TITLE OF INVENTION: specific binding to spatially exposed regions of vascular
TITLE OF INVENTION: permeability factor bound in-vivo to a tumor associated blood
NUMBER OF SEQUENCES: 31
CORRESPONDENCE ADDRESS:
ADDRESSES: David Prashker, Esq.
STREET: P.O. Box 5387
CITY: Magnolia
STATE: Massachusetts
COUNTRY: USA
ZIP: 01930
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.40 Mb storage
COMPUTER: IBM PS/1
OPERATING SYSTEM: MS DOS
SOFTWARE: Wordperfect version 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/807,992B
FILING DATE: March 3, 1997
CLASSIFICATION: 424
ATTORNEY/AGENT INFORMATION:
NAME: David Prashker, Esq.
REGISTRATION NUMBER: 29,693
REFERENCE/DOCKET NUMBER: BIS-033
TELECOMMUNICATION INFORMATION:
TELEPHONE: (978) 525-3794
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
US-08-807-992B-2

Query Match 86.9%; Score 206; DB 3; Length 191;
Best Local Similarity 90.9%; Pred. No. 1.3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKLFV---QTCKSCKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 148 ERRKLFVQDPQTCCKSCKNTDSRCKAROLELNERTCRCDKPRR 191

RESULT 15
US-08-691-794-2
Sequence 2, Application US/08691794
Patent No. 6057428
GENERAL INFORMATION:
APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Ferrara, Napoleone
APPLICANT: Cunningham, Brian C.
APPLICANT: Wells, James A.
APPLICANT: Li, Bing
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
NUMBER OF SEQUENCES: 45
CORRESPONDENCE ADDRESS:
ADDRESSES: Flehr, Hobbach, Test, Albritton & Herbert

STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dregger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 191 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-691-794-2

Query Match 86.9%; Score 206; DB 3; Length 191;
Best Local Similarity 90.9%; Pred. No. 1.3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;
OY 2 ERRKHLFV--QTCKSCKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 148 ERRKHLFVODPQTCKSCKNTDSRCKAROLELNERTCRCDKPRR 191

Search completed: January 30, 2004, 11:47:52
Job time : 18.4513 secs

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OM protein - protein search, using SW model

Run on: January 30, 2004, 11:44:49 ; Search time 40.5795 Seconds
(without alignments)
209.978 Million cell updates/sec

Title: US-09-266-543-6

Perfect score: 237
Sequence: 1 CERRKHLFVQTCCKSCKNYD.....RCKARQLNERTCRCDKPRR 41

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 789580 seqs, 207824079 residues

Total number of hits satisfying chosen parameters: 789580

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

Published Applications AA.*
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18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	206	86.9	55	US-10-318-302-2	Sequence 2, Appli
2	206	86.9	165	US-10-318-302-1	Sequence 1, Appli
3	206	86.9	165	US-10-200-050-3	Sequence 3, Appli
4	206	86.9	190	US-09-813-398-8	Sequence 8, Appli
5	206	86.9	190	US-09-921-143-7	Sequence 7, Appli
6	206	86.9	190	US-10-071-370A-2	Sequence 2, Appli
7	206	86.9	190	US-10-177-465-4	Sequence 4, Appli
8	206	86.9	190	US-10-155-492-4	Sequence 4, Appli
9	206	86.9	191	US-09-349-954A-2	Sequence 2, Appli
10	206	86.9	191	US-09-932-451A-2	Sequence 2, Appli
11	206	86.9	191	US-09-907-007-2	Sequence 2, Appli
12	206	86.9	191	US-09-795-006A-2	Sequence 2, Appli
13	206	86.9	191	US-09-870-759-122	Sequence 12, App
14	206	86.9	191	US-09-751-708A-122	Sequence 12, App
15	206	86.9	191	US-10-392-931-6	Sequence 6, Appli

16	206	86.9	191	US-10-131-985-17	Sequence 17, Appl
17	206	86.9	191	US-10-116-275-227	Sequence 227, App
18	206	86.9	191	US-10-418-529-6	Sequence 6, Appli
19	206	86.9	191	US-10-083-817-3	Sequence 3, Appli
20	206	86.9	191	US-10-200-050-2	Sequence 2, Appli
21	206	86.9	191	US-10-201-386-56	Sequence 56, Appli
22	206	86.9	191	US-10-268-447-6	Sequence 6, Appli
23	206	86.9	191	US-10-262-538-0	Sequence 20, Appli
24	206	86.9	191	US-10-277-184-2	Sequence 2, Appli
25	206	86.9	191	US-10-207-655-11	Sequence 51, Appli
26	206	86.9	192	US-09-852-209A-8	Sequence 8, Appli
27	206	86.9	192	US-10-131-600-8	Sequence 8, Appli
28	206	86.9	198	US-10-293-157-26	Sequence 26, Appli
29	206	86.9	213	US-10-268-447-8	Sequence 8, Appli
30	206	86.9	214	US-09-349-954A-2	Sequence 22, Appli
31	206	86.9	214	US-09-907-007-22	Sequence 22, Appli
32	206	86.9	214	US-09-963-156A-1	Sequence 22, Appli
33	206	86.9	215	US-09-244-694-3	Sequence 3, Appli
34	206	86.9	215	US-10-392-931-8	Sequence 8, Appli
35	206	86.9	215	US-10-418-529-8	Sequence 8, Appli
36	206	86.9	232	US-09-795-006A-147	Sequence 147, App
37	206	86.9	232	US-09-935-726-7	Sequence 7, Appli
38	206	86.9	232	US-10-120-398-7	Sequence 7, Appli
39	206	86.9	232	US-10-120-377-7	Sequence 7, Appli
40	206	86.9	232	US-10-120-414-7	Sequence 7, Appli
41	206	86.9	232	US-10-127-551-5	Sequence 5, Appli
42	206	86.9	232	US-10-060-523-9	Sequence 9, Appli
43	206	86.9	232	US-10-084-488-7	Sequence 7, Appli
44	206	86.9	232	US-10-268-447-10	Sequence 10, Appli
45	199	84.0	191	US-10-207-655-53	Sequence 53, Appli

ALIGNMENTS

RESULT 1
US-10-318-302-2
; Sequence 2, Application US/10318302
; Publication No. US20030171556A1
GENERAL INFORMATION:
; APPLICANT: POSTECH FOUNDATION
; APPLICANT: Cha, Chi-Bom
; APPLICANT: Cha, Yong Song
; APPLICANT: Yang, Seung-Pil
; APPLICANT: Kwon, Byung Oh
; APPLICANT: Bae, Dong-Goo
; APPLICANT: Hwang, Seewook
; TITLE OF INVENTION: BETA-AMYLOID BINDING FACTORS AND INHIBITORS THEREOF
; FILE REFERENCE: 10011-00001
; CURRENT APPLICATION NUMBER: US/10/318,302
; CURRENT FILING DATE: 2002-12-12
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 55
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-318-302-2

Query Match
Best Local Similarity 86.9%; Score 206; DB 12; Length 55;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;
2 ERRKHLFV--QTCCKSCKNTDSRCKARQLNERTCRCDKPRR 41
Db 12 ERRKHLFVQTCCKSCKNTDSRCKARQLNERTCRCDKPRR 55

RESULT 2
US-10-318-302-1
; Sequence 1, Application US/10318302
; Publication No. US20030171556A1

GENERAL INFORMATION:
APPLICANT: POSCO
APPLICANT: Chae, Chi-Bom
APPLICANT: Gho, Yong-Song
APPLICANT: Yang, Seung-Pil
APPLICANT: Kwon, Byung-Oh
APPLICANT: Bae, Dong-Goo
APPLICANT: Hwang, Sewook
TITLE OF INVENTION: BETA-AMYLOID BINDING FACTORS AND INHIBITORS THEREOF
FILE REFERENCE: 10011-00001
CURRENT APPLICATION NUMBER: US/10/318,302
CURRENT FILING DATE: 2002-12-12
NUMBER OF SEQ ID NOS: 5
SOFTWARE: Patentin version 3.1
SEQ ID NO 1
LENGTH: 165
TYPE: PRT
ORGANISM: Homo sapiens
US-10-318-302-1

Query Match 86.9%; Score 206; DB 12; Length 165;
Best Local Similarity 90.9%; Pred. No. 2,6e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
122 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 165

RESULT 3
US-10-200-050-3
Sequence 3, Application US/10200050
Publication No. US20030032145A1
GENERAL INFORMATION:
APPLICANT: Zioncheck, Thomas F.
APPLICANT: Deguzman, Geraldyn G.
APPLICANT: Keck, Rodney G.
TITLE OF INVENTION: VARIANTS OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR HAVING ALTERED PHARMACOLOGICAL PROPERTIES,
AND RELATED ASPECTS THEREOF
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESS: Flehr, Hobbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/10/200,050
FILING DATE: 19-Jul-2002
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/802,052
FILING DATE: 14-FEB-1997
ATTORNEY/AGENT INFORMATION:
NAME: Vance, Dolly A.
REGISTRATION NUMBER: 39,054
REFERENCE/DOCKET NUMBER: A-64069/MTD/DAY
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 165 amino acids
TYPE: amino acid

STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 3:
US-10-200-050-3

Query Match 86.9%; Score 206; DB 15; Length 165;
Best Local Similarity 90.9%; Pred. No. 2,6e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
122 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 165

RESULT 4
US-09-813-398-8
Sequence 8, Application US/09813398
Patent No. US20020169292A1
GENERAL INFORMATION:
APPLICANT: Martinez, Bruce D. Weintraub
APPLICANT: Martinez, W. Szudlinki
APPLICANT: University of Maryland
TITLE OF INVENTION: CYSTINE KNOT GROWTH FACTOR MUTANTS
FILE REFERENCE: UOFMD.003C1
CURRENT APPLICATION NUMBER: US/09/813,398
CURRENT FILING DATE: 2001-03-20
PRIOR APPLICATION NUMBER: PCT/US99/05908
PRIOR FILING DATE: 1999-03-19
PRIOR APPLICATION NUMBER: PCT/US98/19772
PRIOR FILING DATE: 1998-09-22
NUMBER OF SEQ ID NOS: 41
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 8
LENGTH: 190
TYPE: PRT
ORGANISM: HOMO SAPIEN
US-09-813-398-8

Query Match 86.9%; Score 206; DB 10; Length 190;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

RESULT 5
US-09-921-143-7
Sequence 7, Application US/09921143
Publication No. US20030215921A1
GENERAL INFORMATION:
APPLICANT: Coleman, Timothy
TITLE OF INVENTION: Vascular Endothelial Growth Factor-2
FILE REFERENCE: PF112P6
CURRENT APPLICATION NUMBER: US/09/921,143
CURRENT FILING DATE: 2001-08-03
PRIOR APPLICATION NUMBER: 60/223,276
PRIOR FILING DATE: 2000-08-04
NUMBER OF SEQ ID NOS: 36
SOFTWARE: Patentin version 3.0
SEQ ID NO 7
LENGTH: 190
TYPE: PRT
ORGANISM: homo sapiens
US-09-921-143-7

Query Match 86.9%; Score 206; DB 12; Length 190;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41

Db 147 ERRKHLFVODPOTCKSCKNTDSRCKARQLEINERTCCKDKRR 190

RESULT 6
US-10-071-370A-2

; Sequence 2, Application US/10071370A
; Publication No. US20030045471A1
; GENERAL INFORMATION:

; APPLICANT: Bayne, Marvin L.
; APPLICANT: Conn, Gregory L.
; APPLICANT: Thomas, Jr., Kenneth A.
; TITLE OF INVENTION: VASCULAR ENDOTHELIAL CELL GROWTH FACTOR
; TITLE OF INVENTION: II
; FILE REFERENCE: 18199CB

; CURRENT APPLICATION NUMBER: US/10/071,370A
; CURRENT FILING DATE: 2002-02-08
; PRIOR APPLICATION NUMBER: 09/326,879
; PRIOR FILING DATE: 1999-06-07
; PRIOR APPLICATION NUMBER: 09/038,199
; PRIOR FILING DATE: 1998-03-10
; PRIOR APPLICATION NUMBER: 08/299,185
; PRIOR FILING DATE: 1994-08-31
; PRIOR APPLICATION NUMBER: 08/000,834
; PRIOR FILING DATE: 1993-01-05
; PRIOR APPLICATION NUMBER: 07/586,638
; PRIOR FILING DATE: 1990-09-21
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 190
; TYPE: PRT
; ORGANISM: rat
US-10-071-370A-2

Query Match 86.9%; Score 206; DB 15; Length 190;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---OTCKSCKNTDSRCKARQLE-NERTCCKDKRR 41
Db 147 ERRKHLFVODPOTCKSCKNTDSRCKARQLEINERTCCKDKRR 190

RESULT 7

; Sequence 4, Application US/10177485
; Publication No. US20030108989A1
; GENERAL INFORMATION:

; APPLICANT: Ferrara, Napoleone
; APPLICANT: Leung, David Wai-Hung
; TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
; TITLE OF INVENTION: and DNA Encoding Same
; FILE REFERENCE: P0586PIC9

; CURRENT APPLICATION NUMBER: US/10/177,485
; CURRENT FILING DATE: 2002-06-20
; PRIOR APPLICATION NUMBER: US 08/979,105
; PRIOR FILING DATE: 1997-11-26
; PRIOR APPLICATION NUMBER: US 08/749,709
; PRIOR FILING DATE: 1996-11-15
; PRIOR APPLICATION NUMBER: US 08/460,370
; PRIOR FILING DATE: 1995-06-02
; PRIOR APPLICATION NUMBER: US 08/410,378
; PRIOR FILING DATE: 1995-03-27
; PRIOR APPLICATION NUMBER: US 08/062,489
; PRIOR FILING DATE: 1993-05-13
; PRIOR APPLICATION NUMBER: US 07/772,399
; PRIOR FILING DATE: 1991-10-07
; PRIOR APPLICATION NUMBER: US 07/369,424
; PRIOR FILING DATE: 1989-06-21
; PRIOR APPLICATION NUMBER: US 07/351,117
; PRIOR FILING DATE: 1989-05-12
; NUMBER OF SEQ ID NOS: 9

; SEQ ID NO 4
; LENGTH: 190
; TYPE: PRT
; ORGANISM: Bovine
US-10-177-485-4

Query Match 86.9%; Score 206; DB 15; Length 190;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---OTCKSCKNTDSRCKARQLE-NERTCCKDKRR 41
Db 147 ERRKHLFVODPOTCKSCKNTDSRCKARQLEINERTCCKDKRR 190

RESULT 8
US-10-155-492-4

; Sequence 4, Application US/10155492
; Publication No. US20030114374A1
; GENERAL INFORMATION:

; APPLICANT: Ferrara, Napoleone
; APPLICANT: Leung, David Wai-Hung
; TITLE OF INVENTION: Production of Vascular Endothelial Cell Growth Factor
; TITLE OF INVENTION: and DNA Encoding Same
; FILE REFERENCE: P0586PIC8

; CURRENT APPLICATION NUMBER: US/10/155,492
; CURRENT FILING DATE: 2002-05-24
; PRIOR APPLICATION NUMBER: US 08/901,544
; PRIOR FILING DATE: 1997-07-28
; PRIOR APPLICATION NUMBER: US 08/694,809
; PRIOR FILING DATE: 1996-08-09
; PRIOR APPLICATION NUMBER: US 08/410,378
; PRIOR FILING DATE: 1995-03-27
; PRIOR APPLICATION NUMBER: US 08/062,489
; PRIOR FILING DATE: 1993-05-13
; PRIOR APPLICATION NUMBER: US 07/772,399
; PRIOR FILING DATE: 1991-10-07
; PRIOR APPLICATION NUMBER: US 07/369,424
; PRIOR FILING DATE: 1989-06-21
; PRIOR APPLICATION NUMBER: US 07/351,117
; PRIOR FILING DATE: 1989-05-12
; NUMBER OF SEQ ID NOS: 9
; SEQ ID NO 4
; LENGTH: 190
; TYPE: PRT
; ORGANISM: Bovine
US-10-155-492-4

Query Match 86.9%; Score 206; DB 15; Length 190;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---OTCKSCKNTDSRCKARQLE-NERTCCKDKRR 41
Db 147 ERRKHLFVODPOTCKSCKNTDSRCKARQLEINERTCCKDKRR 190

RESULT 9
US-09-349-954A-2

; Sequence 2, Application US/09349954A
; Patent No. US20020019027A1
; GENERAL INFORMATION:

; APPLICANT: Hayward, Nicholas K.
; APPLICANT: Weber, Gunther
; APPLICANT: Grimmond, Sean
; APPLICANT: No. US20020019027A1denekjold, Magnus
; APPLICANT: Larsson, Catharina
; TITLE OF INVENTION: A NOVEL GROWTH FACTOR AND A GENETIC SEQUENCE ENCODING

; TITLE OF INVENTION: SAME
; FILE REFERENCE: Dav. Col. Cave
; CURRENT APPLICATION NUMBER: US/09/349,954A
; CURRENT FILING DATE: 1999-07-08
; PRIOR APPLICATION NUMBER: 08/765,588

;; PRIOR FILING DATE: 1996-02-22
;; NUMBER OF SEQ ID NOS: 22
;; SOFTWARE: Patentln Ver. 2.1
;; SEQ ID NO 2
;; LENGTH: 191
;; TYPE: PRT
;; ORGANISM: Nucleotide Sequence of VEGF165
US-09-349-954A-2

Query Match 86.9%; Score 206; DB 9; Length 191;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCGKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 148 ERRKHLFVQDPQTCCKSCGKNTDSRCKAROLELNERTCRCDKPRR 191

RESULT 10
US-09-932-451A-2
; Sequence 2, Application US/09932451A
; Patent No. US2002011324A1
; GENERAL INFORMATION:
; APPLICANT: OZAMA, Keiya
; APPLICANT: SHIMPO, Masahisa
; APPLICANT: IKEDA, Uichi
; APPLICANT: MAEDA, Yoshikazu
; APPLICANT: SHIMADA, Kazuyuki
; TITLE OF INVENTION: ADENO-ASSOCIATED VIRUS-MEDIATED DELIVERY OF ANGIOGENIC
; FILE REFERENCE: 0800-0026
; CURRENT APPLICATION NUMBER: US/09/932,451A
; PRIOR FILING DATE: 2001-08-17
; PRIOR FILING DATE: 2000-08-17
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: Patentln Ver. 2.0
; SEQ ID NO 2
; LENGTH: 191
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: VEGF-165
US-09-932-451A-2

Query Match 86.9%; Score 206; DB 10; Length 191;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCGKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 148 ERRKHLFVQDPQTCCKSCGKNTDSRCKAROLELNERTCRCDKPRR 191

RESULT 11
US-09-907-007-2
; Sequence 2, Application US/09907007
; Patent No. US20020142395A1
; GENERAL INFORMATION:
; APPLICANT: Hayward, Nicholas K.
; APPLICANT: Weber, Gunther
; APPLICANT: Grimmer, Sean
; APPLICANT: No. US20020142395A1denekjold, Magnus
; APPLICANT: Larsson, Catharina
; TITLE OF INVENTION: A NOVEL GROWTH FACTOR AND A GENETIC SEQUENCE ENCODING
; FILE REFERENCE: DAVIES
; CURRENT APPLICATION NUMBER: US/09/907,007
; PRIOR FILING DATE: 2001-07-17
; PRIOR APPLICATION NUMBER: 08/765,588
; PRIOR FILING DATE: 1996-02-22
; NUMBER OF SEQ ID NOS: 22
; SOFTWARE: Patentln Ver. 2.1

;; SEQ ID NO 2
;; LENGTH: 191
;; TYPE: PRT
;; ORGANISM: Nucleotide Sequence of VEGF165
US-09-907-007-2

Query Match 86.9%; Score 206; DB 10; Length 191;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCGKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 148 ERRKHLFVQDPQTCCKSCGKNTDSRCKAROLELNERTCRCDKPRR 191

RESULT 12
US-09-795-006A-2
; Sequence 2, Application US/09795006A
; Patent No. US20020151680A1
; GENERAL INFORMATION:
; APPLICANT: Alitalo et al
; TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
; FILE REFERENCE: 28967/35977B
; CURRENT APPLICATION NUMBER: US/09/795,006A
; PRIOR FILING DATE: 2001-02-26
; PRIOR APPLICATION NUMBER: US 60/205,331
; PRIOR FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/185,205
; PRIOR FILING DATE: 2000-02-25
; NUMBER OF SEQ ID NOS: 175
; SOFTWARE: Patentln Ver. 2.0
; SEQ ID NO 2
; LENGTH: 191
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-795-006A-2

Query Match 86.9%; Score 206; DB 10; Length 191;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCGKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 148 ERRKHLFVQDPQTCCKSCGKNTDSRCKAROLELNERTCRCDKPRR 191

RESULT 13
US-09-870-759-122
; Sequence 122, Application US/09870759
; Patent No. US20020177551A1
; GENERAL INFORMATION:
; APPLICANT: TERMAN, David S
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT OF NEOPLASTIC DISEASE
; FILE REFERENCE: 870759
; CURRENT APPLICATION NUMBER: US/09/870,759
; PRIOR FILING DATE: 2002-01-14
; PRIOR APPLICATION NUMBER: US 60/208,128
; PRIOR FILING DATE: 2000-05-30
; NUMBER OF SEQ ID NOS: 166
; SOFTWARE: Patentln version 3.1
; SEQ ID NO 122
; LENGTH: 191
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-870-759-122

Query Match 86.9%; Score 206; DB 10; Length 191;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Qy 2 ERRKHLFV---QTCKSCGKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 148 ERRKHLFVQDPQTCCKSCGKNTDSRCKAROLELNERTCRCDKPRR 191

Db 148 ERRKHLFVODPQTCCKSCNNTDSRCKARQLEINERTCRCDKPRR 191

RESULT 14

US-09-751-708A-122
; Sequence 122, Application US/09751708A
; Publication No. US20030157113A1
; GENERAL INFORMATION:
; APPLICANT: TERMAN, David S
; TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR TREATMENT OF NEOPLASTIC DISEASE
; FILE REFERENCE: 751708
; CURRENT APPLICATION NUMBER: US/09/751,708A
; CURRENT FILING DATE: 2002-10-15
; PRIOR APPLICATION NUMBER: US 60/173,371
; PRIOR FILING DATE: 1999-12-28
; NUMBER OF SEQ ID NOS: 166
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 122
; LENGTH: 191
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-751-708A-122

Query Match 86.9%; Score 206; DB 12; Length 191;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---QTCCKSCNNTDSRCKARQLE-NERTCRCDKPRR 41
Db 148 ERRKHLFVODPQTCCKSCNNTDSRCKARQLEINERTCRCDKPRR 191

RESULT 15

US-10-392-931-6
; Sequence 6, Application US/10392931
; Publication No. US20030194643A1
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; APPLICANT: Scios, Inc.
; APPLICANT: University of Washington
; TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
; FILE REFERENCE: SCIOS.003A
; CURRENT APPLICATION NUMBER: US/10/392,931
; CURRENT FILING DATE: 1999-09-09
; PRIOR APPLICATION NUMBER: 60/099694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 60/126406
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/126615
; PRIOR FILING DATE: 1999-03-27
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 6
; LENGTH: 191
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-392-931-6

Query Match 86.9%; Score 206; DB 12; Length 191;
Best Local Similarity 90.9%; Pred. No. 3e-16;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---QTCCKSCNNTDSRCKARQLE-NERTCRCDKPRR 41
Db 148 ERRKHLFVODPQTCCKSCNNTDSRCKARQLEINERTCRCDKPRR 191

Search completed: January 30, 2004, 12:15:02
Job time : 41.7045 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:34:23 / Search time 17.6615 Seconds
(without alignments)
223.249 Million cell updates/sec

Title: US-09-266-543-6.

Perfect score: 237
Sequence: 1 CERRKHLFVOTCKSCSKNTD.....RCKARQLENERTCRCDKPRR 41

Scoring table: BIOSUM62
Gapop 10.0 , Gapept 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	206	86.9	190	2	SS2130
2	206	86.9	190	2	B40080
3	206	86.9	190	2	B44881
4	206	86.9	190	2	A35987
5	206	86.9	214	2	A44881
6	206	86.9	232	2	A41551
7	85	35.9	188	2	UC4680
8	74	31.2	419	2	S69207
9	71	30.0	1700	2	S08167
10	70	29.5	160	2	J00542
11	61	25.7	69	2	A55011
12	61	25.7	120	2	A33787
13	61	25.7	146	2	S57956
14	60.5	25.5	398	2	A52281
15	60	25.3	5376	2	T42215
16	59.5	25.1	593	2	S45281
17	59	24.9	2703	1	A24420
18	58.5	24.7	1187	2	T18355
19	58	24.5	1568	2	T09074
20	58	24.5	4307	2	T20721
21	56	23.6	363	2	T39527
22	56	23.6	372	1	A32375
23	56	23.6	451	2	A86470
24	55.5	23.4	603	2	S28941
25	55	23.2	63	2	A34905
26	55	23.2	153	2	A33090
27	55	23.2	425	2	T18592
28	54.5	23.0	57	1	SMKD25

30	54.5	23.0	75	2	B45206	metallothionein 2
31	54.5	23.0	188	2	I51295	vascular endotheli
32	54.5	23.0	651	2	T19477	hypothetical prote
33	54	22.8	147	2	A48194	thyrotropin beta c
34	54	22.8	432	2	T37509	hypothetical prote
35	53.5	22.6	1106	2	T13938	gene shuttle craft
36	53.5	22.6	1106	2	T44598	hypothetical prote
37	53.5	22.6	1280	2	A39117	170K lectin precu
38	53	22.4	170	2	G64016	hypothetical prote
39	53	22.4	225	2	S25097	platelet-derived g
40	53	22.4	241	1	PFMSGB	platelet-derived g
41	53	22.4	372	2	S23936	L-selectin precurs
42	53	22.4	376	2	JC4892	L-selectin precurs
43	53	22.4	686	2	JC7569	Delta-4 protein -
44	52.5	22.2	683	1	RNZMB1	DNA-directed RNA p
45	52.5	22.2	1051	2	JC4091	glycoprotein A - P

ALIGNMENTS

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RESULT 1
S52130
Vascular endothelial growth factor - pig
C:Species: Sus scrofa domestica (domestic pig)
C>Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C:Accession: S52130
R:Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
A>Title: Nucleotide sequence and expression of the porcine vascular endothelial growth f
A:Reference number: S52130; MUID:95143284; PMID:7841203
A:Accession: S52130
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-190 <SHA>
A:Cross-references: GB:X81380; NID:G587559; PIDN:CAA57143.1; PID:G587560

Query Match      86.9%  Score 206;  DB 2;  Length 190;
Best Local Similarity 90.9%;  Pred. No. 7.9e-16;
Matches 40;  Conservative 0;  Mismatches 0;  Indels 4;  Gaps 2;

Cy 2 ERRKHLFV---OTCKSCSKNTDSRCKAROLE-NERTCRCDKPRR 41
Db 147 ERRKHLFVQDPQOTCKSCSKNTDSRCKAROLENERTCRCDKPRR 190

RESULT 2
B40080
Vascular endothelial growth factor precursor (version 2) - bovine
C:Species: Bos primigenius taurus (cattle)
C>Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
C:Accession: B40080; B33787; A33255
R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A>Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
A:Reference number: A40080; MUID:90069608; PMID:2479986
A:Accession: B40080
A:Molecule type: mRNA
A:Residues: 1-190 <LEU>
A:Cross-references: GB:M32976; NID:G163006; PIDN:AAA30502.1; PID:G163007
R:Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A>Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
A:Reference number: A33787; MUID:90121225; PMID:2610687
A:Accession: B33787
A:Molecule type: mRNA
A:Residues: 27-190 <TIS>
A:Cross-references: GB:M1836; NID:G163808; PIDN:AAA30804.1; PID:G163809
R:Ferrara, N.; Henzel, W.J.
Biochem. Biophys. Res. Commun. 161, 851-858, 1989
A>Title: Pituitary follicular cells secrete a novel heparin-binding growth factor specif
A:Reference number: A33255; MUID:89286596; PMID:2735925
A:Accession: A33255
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A:Molecule type: protein
 A:Residues: 27-31 <PBR>
 C:Keywords: alternative splicing; glycoprotein
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:27-190/Product: vascular endothelial growth factor #status predicted <MAT>
 F:100/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 86.9%; Score 206; DB 2; Length 190;
 Best Local Similarity 90.9%; Pred. No. 7.9e-16;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
 Db 147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

RESULT 3
 B44881
 Vascular endothelial growth factor-1 precursor - mouse
 C:Species: Mus musculus (house mouse)
 C>Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 05-Nov-1999
 C:Accession: B44881; A43551; A61029
 R:Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
 Development 114, 521-532, 1992
 A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
 A:Reference number: A44881; MUID:92274860; PMID:1592003
 A:Accession: B44881
 A:Molecule type: mRNA
 A:Residues: 1-190 <BRE>
 A:Cross-references: GB:538083; NID:g249856; PIDN:AA622253.1; PID:g249859
 A:Experimental source: embryo
 A:Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBIIP:107623)
 R:Claffey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
 J. Biol. Chem. 267, 16317-16322, 1992
 A:Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti
 A:Reference number: A43351; MUID:92355593; PMID:1644816
 A:Accession: A43351
 A:Molecule type: mRNA
 A:Residues: 1-116, 'ER', 119-190 <CLA>
 A:Cross-references: GB:M95200; NID:g202350; PIDN:AAA40547.1; PID:g202351
 A:Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBIIP:110675)
 R:Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J.
 Growth Factors 4, 53-59, 1990
 A:Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial g
 A:Reference number: A61029; MUID:91197543; PMID:2085441
 A:Accession: A61029
 A:Molecule type: protein
 A:Residues: 27-38 <ROS>
 C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mlt

Query Match 86.9%; Score 206; DB 2; Length 190;
 Best Local Similarity 90.9%; Pred. No. 7.9e-16;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
 Db 147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

RESULT 4
 A35987
 Glioma-derived vascular endothelial cell growth factor - rat
 C:Species: Rattus norvegicus (Norway rat)
 C>Date: 16-Nov-1990 #sequence revision 16-Nov-1990 #text_change 05-Nov-1999
 C:Accession: A35987
 R:Com, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Hope,
 Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
 A:Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is ho
 A:Reference number: A35987; MUID:90207249; PMID:2320579
 A:Accession: A35987
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-190 <CON>

A:Cross-references: GB:M32167; NID:g204287; PIDN:AAA41211.1; PID:g204288

Query Match 86.9%; Score 206; DB 2; Length 190;
 Best Local Similarity 90.9%; Pred. No. 7.9e-16;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
 Db 147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

RESULT 5
 A44881
 Vascular endothelial growth factor-3 precursor - mouse
 N:Contains: vascular endothelial growth factor-2; vascular permeability factor
 C:Species: Mus musculus (house mouse)
 C>Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 08-Oct-1999
 C:Accession: A44881; C44881; A60932; S52136
 R:Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
 Development 114, 521-532, 1992
 A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
 A:Reference number: A44881; MUID:92274860; PMID:1592003
 A:Accession: A44881
 A:Molecule type: mRNA
 A:Residues: 1-214 <BRE>
 A:Cross-references: GB:537052; NID:g249856; PIDN:AA622252.1; PID:g249857
 A:Experimental source: embryo
 A:Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBIIP:104678)
 A:Accession: A44881
 A:Molecule type: mRNA
 A:Residues: 1-140, 209-214 <BR2>
 A:Cross-references: GB:538100; NID:g249860; PIDN:AA622254.1; PID:g249861
 A:Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIIP:107625)
 R:Clausen, M.; Gerlach, M.; Gerlach, H.; Brett, J.; Wang, F.; Familletti, P.C.; Pan, Y.C.;
 J. Exp. Med. 172, 1535-1545, 1990
 A:Title: Vascular permeability factor: a tumor-derived polypeptide that induces endothe
 A:Reference number: A60932; MUID:91079755; PMID:2258694
 A:Accession: A60932
 A:Molecule type: protein
 A:Residues: 27-33 <CLA>
 R:Sugihara, T.; Kaul, S.C.; Mitsu, Y.; Wadhwa, R.
 Biochim. Biophys. Acta 1224, 365-370, 1994
 A:Title: Enhanced expression of multiple forms of VEGF is associated with spontaneous
 A:Reference number: S52136; MUID:95101726; PMID:7803491
 A:Accession: S52136
 A:Status: preliminary
 A:Molecule type: protein
 A:Residues: 27-46 <SUG>
 C:Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
 C:Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homodimer;
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>

Query Match 86.9%; Score 206; DB 2; Length 214;
 Best Local Similarity 90.9%; Pred. No. 8.5e-16;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
 Db 171 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 214

RESULT 6
 A41551
 Vascular endothelial growth factor 206 precursor - human
 N:Alternate names: vascular permeability factor
 N:Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; VEGF
 C:Species: Homo sapiens (man)
 C>Date: 28-Aug-1992 #sequence revision 28-Aug-1992 #text_change 05-Nov-1999
 C:Accession: A41551; C41551; B41551; A40544; B40454; C40454; A40079; A40080; J01463; J01464;
 R:Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
 Mol. Endocrinol. 5, 1806-1814, 1991
 A:Title: The vascular endothelial growth factor family: identification of a fourth molec

A:Reference number: A41551; MUID:92168017; PMID:1791831
A:Accession: A41551
A:Molecule type: mRNA
A:Residues: 1-232 <HOU1>
A:Cross-references: GB:S85192; NID:g246155; PID:g246156
A:Accession: C41551
A:Status: nucleic acid sequence not shown
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <HOU2>
A:Accession: B41551
A:Status: nucleic acid sequence not shown, not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-141, 227-232 <HOU>
A:Title: The human gene for vascular endothelial growth factor. Multiple protein forms a
J. Biol. Chem. 266, 11947-11954, 1991
A:Reference number: A40454; MUID:91268072; PMID:1711045
A:Accession: A40454
A:Molecule type: DNA
A:Residues: 1-165, 183-232 <TT1>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976; GB:M63977; GB:M63978
A:Accession: B40454
A:Molecule type: DNA
A:Residues: 1-141, 227-232 <TT3>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976; GB:M63977; GB:M63978
A:Accession: A40079
A:Reference number: A40079; MUID:90069609; PMID:2479987
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-165, 183-232 <KEC>
A:Cross-references: GB:M67281; NID:g340300; PIDN:AAA36607.1; PID:g340301
A:Leung, D.W.; Cachianes, G.; Kiang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
A:Reference number: A40080; MUID:90069608; PMID:2479986
A:Accession: A40080
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <LEU>
A:Cross-references: GB:M2977; NID:g181970; PIDN:AAA5789.1; PID:g181971
A:Weinell, K.; Marne, D.; Welch, H.A.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A:Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
A:Reference number: JQ1463; MUID:92231879; PMID:1567395
A:Accession: JQ1463
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <WE1>
A:Cross-references: EMBL:X62568; NID:g37658; PIDN:CAA44447.1; PID:g37659
A:Experimental source: AIDS-Kaposi's sarcoma cell
A:Accession: JQ1464
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 227-232 <WE2>
A:Experimental source: AIDS-Kaposi's sarcoma cell
R. Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monseil, R.; Siegel, N.; Hay
J. Biol. Chem. 264, 20017-20024, 1989
A:Title: Human vascular permeability factor. Isolation from U937 cells.
A:Reference number: A34492; MUID:90062112; PMID:2584205
A:Accession: A34492
A:Molecule type: protein
A:Residues: 27-36743-89, 'R', 72-76, 'Q', 78-81, 59-71 <CON>
C:Comment: The most common of several alternatively spliced forms is VEGF 165.
A:Gene: GDB:VEGF
A:Cross-references: GDB:132244; OMIM:192240
C:Function: 6p21-6p12

A:Description: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pro
 C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pro
 F1-1-332/Product: vascular endothelial growth factor 206 precursor #status predicted <V20
 F1-1-165,183-233/Product: vascular endothelial growth factor 189 precursor #status predic
 F1-1-141,227-233/Product: vascular endothelial growth factor 121 precursor #status predic
 F1-1-26/Domains: signal sequence #status predicted <SIG-
 F101/Binding site: carbohydrate (Aan) (covalent) #status predicted

Query Match 86.9%; Score 206; DB 2; Length 232;
 Best Local Similarity 90.9%; Pred. No. 9e-16;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Oy 2 ERKHLFV---QTCCKSCKNTPSRCKARQLE-NERTCRCDKPPR 41
 Db 189 ERKHLFVQDPQTCCKSCKNTPSRCKARQLELNERTCRCDKPPR 232

RESULT 7
 J04680
 Vascular endothelial growth factor-related factor 167 precursor - mouse
 N:Alternate names: VRF 167 protein
 C:Species: Mus musculus (house mouse)
 C:Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
 A:Accession: J04680
 R:Tomson, S.; Lagercrantz, J.; Grimmond, S.; Silins, G.; Nordenskjöld, M.; Weber, G.;
 Biochem. Biophys. Res. Commun. 220, 922-928, 1996
 A>Title: Characterization of the murine VEGF-related factor gene.
 A:Reference number: J04679; MUID:96183052; PMID:8607868
 A:Accession: J04680
 A:Molecule type: mRNA
 A:Residues: 1-188 <TOW>
 A:Cross-references: GB:U04837; NID:g1314335; PIDN:PAC2553.1, PID:g1314336
 C:Comment: This factor is a mitogen, that is selective for endothelial cells, and belong
 ar endothelial growth factors 167 and VEGF 186.
 C:Genetics:
 A:Gene: vrf
 A:Map position: 19
 A:Introns: 137/2
 F1-21/Domains: signal sequence #status predicted <SIG>
 F12-188/Product: vascular endothelial growth factor-related factor #status predicted <N

Query Match 35.9%; Score 85; DB 2; Length 188;
 Best Local Similarity 42.9%; Pred. No. 0.017;
 Matches 18; Conservative 7; Mismatches 15; Indels 2; Gaps 2;

Oy 2 ERKHLFVQTCCKSCKNTP-SRCKARQLE-NERTCRCDKPPR 41
 Db 147 QRQRPPDPTTCRCRCRRRFLHCQGRGLELNPTTCRCRKPRK 188

RESULT 8
 S69207
 Vascular endothelial growth factor C precursor - human
 N:Alternate names: Flt4 ligand DHM
 C:Species: Homo sapiens (man)
 C:Date: 27-Apr-1996 #sequence_revision 01-Nov-1996 #text_change 08-Oct-1999
 A:Accession: S69207; S61795; S71443; S69208; G02659
 R:Jonkov, V.; Pajusola, K.; Kaipainen, A.; Chliov, D.; Lahtinen, I.; Kuk, E.; Saksela,
 EMO J. 15, 1751, 1996
 A>Title: Corrigendum: A novel vascular endothelial growth factor, VEGF-C, is a ligand fo
 A:Reference number: S69207; MUID:96203094; PMID:8612600
 A:Accession: S69207
 A>Status: nucleic acid sequence not shown
 A:Molecule type: mRNA
 A:Residues: 1-419 <JOU>
 A:Cross-references: EMBL:X94216; NID:g1177488; PIDN:CA63907.1, PID:e221096; PID:g118200
 A>Note: The nucleotide sequence was submitted to the EMBL Data Library, December 1995
 A>Note: only a part of the translation is shown
 A>Note: this is a revision to the sequence from reference S61795
 R:Jonkov, V.; Pajusola, K.; Kaipainen, A.; Chliov, D.; Lahtinen, I.; Kuk, E.; Saksela,
 EMO J. 15, 290-298, 1996
 A>Title: A novel vascular endothelial growth factor, VEGF-C, is a ligand for the Flt4 (V
 A:Reference number: S61795; MUID:96178224; PMID:8617204

A:Accession: S61795
A:Status: nucleic acid sequence not shown; not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 70-419 <J0U1>
A>Note: This sequence has been revised in reference S69207
A:Accession: S71443
A:Molecule type: protein
A:Residues: 'X', 104-120 <J0U2>
R:Lee, J.; Gray, A.; Yuan, J.; Luoh, S.M.; Avraham, H.; Wood, W.I.
A:Description: Vascular endothelial growth factor related protein (VRP): A ligand and sg
A:Reference number: S69208
A:Accession: S69208
A:Molecule type: mRNA
A:Residues: 1-419 <LEB>
A:Cross-references: EMBL:U43142; NID:g1150988; PIDN:AAA5214.1; PID:g1150989
R:Morrill, U.C.
A:Submitted to the EMBL Data Library, May 1996
A:Reference number: H01557
A:Accession: G02659
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-419 <MOR>
A:Cross-references: EMBL:U58111; NID:g1373426; PIDN:AA802909.1; PID:g1373427
C:Genetics:
A:Gene: GDB:VEGFC; VRP
A:Cross-references: GDB:3890883; OMIM:601528
F.11-12/Domain: signal sequence #status predicted <SIG>
F.13-102/Domain: propeptide #status predicted <PRO>
F.103-419/Product: vascular endothelial growth factor C #status experimental <MAT>

Query Match 31.2%; Score 74; DB 2; Length 419;
Best Local Similarity 39.5%; Pred. No. 0.48;
Matches 15; Conservative 6; Mismatches 15; Indels 2; Gaps 1;

OY 1 CERRHFLVQTCCKSCCKNT--DSRCKARQLENERTCRC 36
DB 304 CGPHKELDRNSQCVCCKNKLFPSCGANREPDENRCQC 341

RESULT 9
S08167
Balbiant ring 3 protein - midge (Chironomus tentans)
C:Species: Chironomus tentans
C>Date: 30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change 21-Jul-2000
C:Accession: S08167
R:Paulsson, G.; Lendahl, U.; Galli, J.; Ericsson, C.; Wieslander, L.
J. Mol. Biol. 211, 331-349, 1990
A>Title: The balbiant ring 3 gene in Chironomus tentans has a diverged repetitive struct
A:Reference number: S08167; MUID:90172404; PMID:1689777
A:Accession: S08167
A:Status: not compared with conceptual translation
A:Molecule type: DNA
A:Residues: 1-1700 <PAU>
A:Cross-references: GB:X52263; NID:g7057; PIDN:CAA36506.1; PID:g7058
C:Genetics:
A:Gene: BR3
A:Map position: 4
C:Superfamily: unassigned Balbiant ring proteins

Query Match 30.0%; Score 71; DB 2; Length 1700;
Best Local Similarity 38.5%; Pred. No. 2.7;
Matches 15; Conservative 5; Mismatches 11; Indels 8; Gaps 2;

OY 1 CERRHFLVQTCCKSCCKNTDSRCKARQLENERTCRCDKP 39
DB 126 CEK-----SCACVCPNAD-KCTAPQVNNKDTCCCGCP 156

RESULT 10
J00532
185K secretory protein - midge (Chironomus tentans) (fragment)
N:Alternate names: balbiant ring 3 protein

C:Species: Chironomus tentans
C>Date: 31-Dec-1991 #sequence_revision 31-Dec-1991 #text_change 17-Mar-2000
C:Accession: J00542
R:Dignam, S.S.; Case, S.T.
Gene 88, 133-140, 1990
A>Title: Balbiant ring 3 in Chironomus tentans encodes a 185-kDa secretory protein which
A:Reference number: J00542; MUID:90269600; PMID:2189782
A:Accession: J00542
A:Molecule type: mRNA
A:Residues: 1-160 <DIG>
A:Cross-references: GB:M24160
A:Experimental source: salivary gland
C:Superfamily: unassigned Balbiant ring proteins

Query Match 29.5%; Score 70; DB 2; Length 160;
Best Local Similarity 35.5%; Pred. No. 0.68;
Matches 11; Conservative 5; Mismatches 15; Indels 0; Gaps 0;

OY 9 VQTCCKSCCKNTDSRCKARQLENERTCRCDKP 39
DB 123 INTACCGGIDKPSCPKQIYNNWTKDCECP 153

RESULT 11
A55011
metallothionein-like protein YOR031w - yeast (Saccharomyces cerevisiae)
N:Alternate names: protein O2675
C:Species: Saccharomyces cerevisiae
C>Date: 11-Nov-1994 #sequence_revision 11-Nov-1994 #text_change 19-Apr-2002
C:Accession: A55011; S66897
R:Culotta, V.C.; Howard, W.R.; Liu, X.F.
J. Biol. Chem. 269, 25295-25302, 1994
A>Title: CR85 encodes a metallothionein-like protein in Saccharomyces cerevisiae.
A:Reference number: A55011; MUID:95014318; PMID:7928222
A:Accession: A55011
A:Molecule type: DNA
A:Residues: 1-69 <CUL>
A:Cross-references: GB:L29056; NID:g499891; PIDN:AAA66061.1; PID:g499892
R:de Haan, M.; Grivell, L.A.; Maarse, A.C.
submitted to the Protein Sequence Database, July 1996
A:Reference number: S66897
A:Accession: S66897
A:Molecule type: DNA
A:Residues: 1-8 <DEH>
A:Cross-references: EMBL:Z74939; MIPS:YOR031w
A:Experimental source: strain S288C
A>Note: In strain S288C YOR031w is a pseudogene with an inframe stopcodon
C:Genetics:
A:Gene: SGD:CR85; CR85
A:Cross-references: SGD:S0005557
A:Map position: 15R
A>Note: YOR031w
C:Function:
A:Description: involved in copper homeostasis and detoxification

Query Match 25.7%; Score 61; DB 2; Length 69;
Best Local Similarity 31.6%; Pred. No. 3.8;
Matches 12; Conservative 5; Mismatches 9; Indels 12; Gaps 2;

OY 10 QTCRC-----SCNTDSRCKARQLENERTCRCDKP 40
DB 31 EKCKDHSHTGSPQCKSCGCKKC-----ETTCCKSK 63

RESULT 12
A33787
vascular endothelial growth factor (version 1) - bovine
C:Species: Bos primigenius taurus (cattle)
C>Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C:Accession: A33787
R:Tischer, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Critch
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A>Title: Vascular endothelial growth factor: a new member of the platelet-derived growth

A:Reference number: A33787; MUID:90121225; PMID:2610687
A:Accession: A33787
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-120 <TIS>
A:Cross-references: GB:M33750; NID:9163810; PIDN:AAA30805.1; PID:9163811
C:Keywords: alternative splicing

Query Match 25.7%; Score 61; DB 2; Length 120;
Best Local Similarity 44.1%; Pred. No. 5.5;
Matches 15; Conservative 4; Mismatches 7; Indels 8; Gaps 2;

QY 8 FVOTCKSCSKNTDSRCKARQLENERTCRCDKPR 41
DB 95 FLQHNKCEGR--PKDKARQE-----KCDKPRR 120

RESULT 13

S57956
ovine vascular endothelial growth factor - sheep
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C:Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
C:Accession: S57956
R:Redmer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.
submitted to the EMBL Data Library, July 1995
A:Reference number: S57956
A:Accession: S57956
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-146 <RED>
A:Cross-references: EMBL:X89506; NID:9899350; PIDN:CAA61677.1; PID:9899351

Query Match 25.7%; Score 61; DB 2; Length 146;
Best Local Similarity 44.1%; Pred. No. 6.3;
Matches 15; Conservative 4; Mismatches 7; Indels 8; Gaps 2;

QY 8 FVOTCKSCSKNTDSRCKARQLENERTCRCDKPR 41
DB 121 FLQHNKCEGR--PKDKARQE-----KCDKPRR 146

RESULT 14

A35281
Integumentary mucin B.1 - African clawed frog (fragment)
C:Species: Xenopus laevis (African clawed frog)
C:Date: 17-Aug-1990 #sequence_revision 06-Nov-1992 #text_change 03-Nov-2000
C:Accession: A35281
R:Probst, J.C.; Gertzen, B.M.; Hoffmann, W.
Biochemistry 29, 6240-6244, 1990
A:Title: An integumentary mucin (FIM-B.1) from Xenopus laevis homologous with von Willebrand factor
A:Reference number: A35281; MUID:91002513; PMID:2207068
A:Accession: A35281
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-398 <PRO>
A:Cross-references: GB:J02910; NID:9214145; PIDN:AAA9711.1; PID:9214146
C:Superfamily: pig submaxillary mucin

Query Match 25.5%; Score 60.5; DB 2; Length 398;
Best Local Similarity 34.2%; Pred. No. 14;
Matches 13; Conservative 7; Mismatches 15; Indels 3; Gaps 2;

QY 6 HLFVOTCK-GSKNTD--SRCKARQLENERTCRCDKPR 40
DB 183 HMMQTGCDVCTGTSKTKQCAPROCKEIKCKSDERR 220

RESULT 15

T42215
zonadhesin - mouse
N:Alternate names: sperm-specific membrane protein
C:Species: Mus musculus (house mouse)
C:Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Dec-1999

C:Accession: T42215
R:Gao, Z.; Garbers, D.L.
J. Biol. Chem. 273, 3415-3421, 1998
A:Title: Species diversity in the structure of zonadhesin, a sperm-specific membrane protein
A:Reference number: Z22080; MUID:98123114; PMID:9452463
A:Accession: T42215
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-5376 <GAO>
A:Cross-references: EMBL:U97068; NID:93327420; PID:93327421; PIDN:AAC26680.1
C:Genetics:
A:Gene: Zan
A:Map position: 5
A:Function:
A:Description: functions in multiple cell adhesion processes
A>Note: found exclusively on the apical region of the sperm head
C:Keywords: cell adhesion

Query Match 25.3%; Score 60; DB 2; Length 5376;
Best Local Similarity 44.0%; Pred. No. 95;
Matches 11; Conservative 2; Mismatches 12; Indels 0; Gaps 0;

QY 11 TCKGSCNTDSRCKARQLENERTCR 35
DB 4756 TCLPSCSNPDRCRCEGTSHKAPSTCR 4780

Search completed: January 30, 2004, 11:46:16
Job time : 18.6615 secs

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:48 ; Search time 9.46154 Seconds
(without alignment)

203.782 Million cell updates/sec

Title: US-09-266-543-6

Perfect score: 237

Sequence: 1 CERKHLFVQCKSCCKNTD.....RCKARQLNERTCRCKPRR 41

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	206	86.9	190	1 VEGA_BOVIN	P16691 bos taurus
2	206	86.9	190	1 VEGA_HORSE	Q9GK70 equus caball
3	206	86.9	190	1 VEGA_MESAU	Q99P81 mesocricetu
4	206	86.9	190	1 VEGA_PIG	P49151 sus scrofa
5	206	86.9	214	1 VEGA_CANPA	Q9MYV3 canis famli
6	206	86.9	214	1 VEGA_MOUSE	Q00731 mus musculu
7	206	86.9	214	1 VEGA_RAT	P16612 rattus norv
8	206	86.9	232	1 VEGA_HUMAN	P16692 homo sapien
9	203	85.7	164	1 VEGA_CAVPO	P26617 cavia porce
10	190	80.2	216	1 VEGA_CHICK	P52582 gallus gall
11	74	31.2	419	1 VEGC_HUMAN	P49267 homo sapien
12	71	30.0	1700	1 BAR3_CHITE	Q03376 chironomus
13	69	29.1	415	1 VEGC_MOUSE	P97953 mus musculu
14	61	25.7	69	1 CR85_YEAST	P41902 saccharomyc
15	61	25.7	146	1 VEGA_SHEEP	P50412 ovis aries
16	61	25.7	299	1 SPY4_HUMAN	Q9C004 homo sapien
17	61	25.7	300	1 SPY4_MOUSE	Q9WEP2 mus musculu
18	60.5	25.5	398	1 MUB1_XENTLA	P38565 xenopus lae
19	60	25.3	5376	1 ZAN_MOUSE	O88179 mus musculu
20	59.5	25.1	593	1 FA12_BOVIN	P98140 bos taurus
21	59	24.9	2703	1 NOTC_DROME	P07207 drosophila
22	56	23.6	118	1 PA2B_MICNI	P81166 micrurus ni
23	56	23.6	118	1 PA2B_MICNI	P81167 micrurus ni
24	56	23.6	372	1 LEM1_MOUSE	P18337 mus musculu
25	55.5	23.4	603	1 FA12_CAVPO	Q04962 cavia porce
26	55	23.2	62	1 MT2_CABEL	P17512 caenorhabdi
27	54.5	23.0	57	1 MT2_SCYSE	P02806 scylla serr
28	54.5	23.0	58	1 MT_BORPO	P55592 potamon pot
29	54.5	23.0	74	1 MT_CABEL	P17511 caenorhabdi
30	54	22.8	84	1 HSPC_EUECT	P83183 elodea cit
31	54	22.8	93	1 FXY8_HUMAN	P58550 homo sapien
32	54	22.8	139	1 TSHB_SALSA	O73824 salmo salar
33	54	22.8	147	1 TSHB_ONCMY	P37240 oncorhynchu

34	53.5	22.6	402	1 LHX5_XENTLA	P37137 xenopus lae
35	53.5	22.6	1185	1 STC_DROME	P40798 drosophila
36	53.5	22.6	1265	1 SL17_ENTHI	P23502 entamoeba h
37	53	22.4	170	1 Y938_HAXIN	P44079 haemophilus
38	53	22.4	225	1 PDGB_RAT	Q05028 rattus norv
39	53	22.4	241	1 PDGB_MOUSE	P31240 mus musculu
40	53	22.4	372	1 LEM1_RAT	P30836 rattus norv
41	53	22.4	686	1 DL4_MOUSE	Q91171 mus musculu
42	53	22.4	824	1 AD17_HUMAN	P78536 homo sapien
43	52.5	22.2	683	1 BROC_MAZE	P16024 zea mays (m
44	52	21.9	146	1 PA21_CAVPO	P43434 cavia porce
45	52	21.9	405	1 LHX1_BRAE	Q90476 brachydanio

ALIGNMENTS

RESULT 1
ID VEGA_BOVIN STANDARD; PRT; 190 AA.
AC P16691:
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
RX MEDLINE=90065608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic
RT mitogen.";
RT Science 246:1306-1309 (1989).
RN [2]
RP SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND BETA).
RX MEDLINE=90121225; PubMed=2610687;
RA Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J.,
RA Lau K., Crisp T., Piddes J.C., Abraham J.A.;
RT "Vascular endothelial growth factor: a new member of the platelet-
RT derived growth factor gene family.";
RL Biochem. Biophys. Res. Commun. 165:1198-1206 (1989).
RN [3]
RP SEQUENCE OF 27-31.
RX MEDLINE=89286596; PubMed=2735925;
RA Ferrara N., Henzel W.J.;
RT "Plutary follicular cells secrete a novel heparin-binding growth
RT factor specific for vascular endothelial cells.";
RL Biochem. Biophys. Res. Commun. 161:851-858 (1989).
CC -!- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -!- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PLGF (By similarity).
CC -!- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -!- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=Alpha;
CC IsoId=PI5691-1; Sequence=Displayed;
CC Name=Beta;
CC IsoId=PI5691-2; Sequence=VSP_004613, VSP_004614;
CC -!- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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DR EMBL; M32976; AAA30502.1; -
 DR EMBL; M31336; AAA30804.1; -
 DR EMBL; M33750; AAA30805.1; -
 DR PIR; B40080; B40080.
 DR HSSP; P15692; 1VGH.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KM Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KM Heparin-binding; Alternative splicing; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 1 26
 FT DISULFID 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
 FT VARSPLIC 139 183 Missing (in isoform Beta).
 FT VARSPLIC 184 184 /FTid=VSP_004613.
 FT VARSPLIC 184 184 R -> K (in isoform Beta).
 FT FTid=VSP_004614.
 SQ SEQUENCE 190 AA; 22310 MW; EDBF903E46E24789 CRC64;

Query Match 86.9%; Score 206; DB 1; Length 190;
 Best Local Similarity 90.9%; Pred. No. 1e-17;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKHLFV---OTKCSCKNTDSRCKAROLE-NERTCCDKPRR 41
 Db 147 ERRKHLFVQDPQTCCKSCKNTDSRCKAROLEINERTCCKPRR 190

RESULT 2
 VEGA_HORSE STANDARD; PRT; 190 AA.
 AC Q9GKR0;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VEGF).
 GN VEGF OR VEGFA.
 OS Equus caballus (Horse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
 OX NCBI_TaxID=9796;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S.,
 RA Kawahara H., Uto N., Oka T., Maruyama I., Sakamoto H.;
 RT "Cloning of cDNA and high-level expression of equine vascular
 RT endothelial growth factor (VEGF).";
 RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
 CC cell growth. Induces endothelial proliferation and vascular
 CC permeability (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (By
 CC similarity).

CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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 CC or send an email to license@isb-sib.ch).

DR EMBL; AB053350; BAB20890.1; -
 DR HSSP; P15692; 1VGH.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KM Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KM Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 1 26
 FT DISULFID 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
 SQ SEQUENCE 190 AA; 22312 MW; 87B9E161395F87 CRC64;

Query Match 86.9%; Score 206; DB 1; Length 190;
 Best Local Similarity 90.9%; Pred. No. 1e-17;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKHLFV---OTKCSCKNTDSRCKAROLE-NERTCCDKPRR 41
 Db 147 ERRKHLFVQDPQTCCKSCKNTDSRCKAROLEINERTCCKPRR 190

RESULT 3
 VEGA_MESAU STANDARD; PRT; 190 AA.
 AC Q99PS1;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
 DE permeability factor) (VEGF).
 GN VEGF OR VEGFA.
 OS Mesocricetus auratus (Golden hamster).
 OC Mesocricetus auratus.
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 OC Mesocricetus.
 OX NCBI_TaxID=10036;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA TISUE=Decidia, and Embryo;
 RC MEDLINE=99311285; PubMed=10382276;
 RX Yi X.U., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.,
 RA "Expression of vascular endothelial growth factor (VEGF) and its
 RT receptors during embryonic implantation in the golden hamster
 RT (Mesocricetus auratus).";
 RL Cell Tissue Res. 296:339-349 (1999).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin (By
 CC similarity).

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CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; AF063013; AAK00049.1; -.
CC HSSP; P15692; 1VGH.
CC InterPro; IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF; 1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF; 1.
CC PROSITE; PS00249; PDGF_1; 1.
CC PROSITE; PS0278; PDGF_2; 1.
CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
CC Heparin-binding; Multigene family.
CC SIGNAL 1 26
CC CHAIN 27 190
CC FT DISULFID 51 93
CC FT DISULFID 82 127
CC FT DISULFID 86 129
CC FT DISULFID 76 76
CC FT DISULFID 85 85
CC FT CARBOHYD 100 100
CC SQ SEQUENCE 190 AA; 22276 MW; F00C5A8EA79A465F CRC64;

Query Match
Best Local Similarity 86.9%; Score 206; DB 1; Length 190;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---QTKCKSCNNTDSRCKARQLE-NERTCRDCKPRR 41
DB 147 ERRKHLFVQDPQTKCKSCNNTDSRCKARQLELNERTCRDCKPRR 190

RESULT 4
ID VEGA_PIG STANDARD; PRT; 190 AA.
AC P49151; O9GL52;
DT 01-FEB-1996 (Rel. 33, Created)
DT 01-FEB-1996 (Rel. 33, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OC NCBI_Taxid=9883;
RN (1)
RP SEQUENCE FROM N.A.
RC TISSUE=Heart;
RX MEDLINE=95143284; PubMed=7841203;
RA Shatma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
RT "Nucleotide sequence and expression of the porcine vascular
RT endothelial growth factor."
RL Biochim. Biophys. Acta 1260:235-238 (1995).
RN (2)
RP SEQUENCE FROM N.A.
RA Lee T., Canty J.M.;
RT "PCR cloning of porcine cardiac vascular endothelial growth factor
RT gene."
CC -1- FUNCTION: (NOV-2000) to the EMBL/GenBank/DBJ databases.
CC endothelial cell growth. It induces angiogenesis, vasculogenesis and
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and

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CC heparin (by similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with p1GF (by similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (by
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
CC EMBL; X81380; CAA57143.1; -.
CC EMBL; AF318502; AAG3064.1; -.
CC PIR; S52130; S52130.
CC HSSP; P15692; 1VGH.
CC InterPro; IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF; 1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF; 1.
CC PROSITE; PS00249; PDGF_1; 1.
CC PROSITE; PS0278; PDGF_2; 1.
CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
CC Heparin-binding; Multigene family.
CC SIGNAL 1 26
CC CHAIN 27 190
CC FT DISULFID 51 93
CC FT DISULFID 82 127
CC FT DISULFID 86 129
CC FT DISULFID 76 76
CC FT DISULFID 85 85
CC FT CARBOHYD 100 100
CC FT CONFLICT 102 102
CC SQ SEQUENCE 190 AA; 22368 MW; 04D40B8D7913047F CRC64;

Query Match
Best Local Similarity 86.9%; Score 206; DB 1; Length 190;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---QTKCKSCNNTDSRCKARQLE-NERTCRDCKPRR 41
DB 147 ERRKHLFVQDPQTKCKSCNNTDSRCKARQLELNERTCRDCKPRR 190

RESULT 5
ID VEGA_CANFA STANDARD; PRT; 214 AA.
AC Q9MYV3; Q9XSF3; Q9XSF4; Q9XSF5;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Placentalia; Canidae; Canis.
OC NCBI_Taxid=9615;
RN (1)
RP SEQUENCE FROM N.A. (ISOFORM VEGF-188).
RX MEDLINE=20125516; PubMed=1061874;
RA Scheidegger P., Weighhofer W., Suarez S., Kaser-Hotz B., Steiner R.,
RA Ballmer-Hofer K., Jauszt R.;
RT "Vascular endothelial growth factor (VEGF) and its receptors in tumor-
RT bearing dogs."
RL Biol. Chem. 380:1449-1454 (1999).
RN (2)
RP SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).
RC TISSUE=Heart;

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RA Jingjing L., Roque R.S.;
RL Submitted (MAR-1999) to the EMBL/Genbank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event-Alternative splicing; Named isoforms=3;
CC Comment=Additional isoforms seem to exist;
CC Name=VEGF-188;
CC IsoId=Q9MYV3-1; Sequence=Displayed;
CC Name=VEGF-182;
CC IsoId=Q9MYV3-2; Sequence=VSP_004617;
CC Name=VEGF-164;
CC IsoId=Q9MYV3-3; Sequence=VSP_004616;
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; AJ133758; CAB82426.1; -
DR EMBL; AF133250; AAD28684.1; -
DR EMBL; AF133249; AAD28683.1; -
DR EMBL; AF133248; AAD28682.1; -
DR HSSP; P15692; 1VGH.
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF_1.
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 214
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
FT VARSPLIC 140 140
FT VARSPLIC 141 164
FT VARSPLIC 159 164
FT CONFLICT 143 143
FT CONFLICT 161 161
FT SEQUENCE 214 AA; 25175 MW; 0AC980A158C44B27 CRC64;
Query Match 86.9%; Score 206; DB 1; Length 214;
Best Local Similarity 90.9%; Pred. No. 1.2e-17;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;
Oy 2 ERRKLFV---OTCKSCNKNTDSRCAROLB-NERTCRDCKPRR 41
Db 171 ERRKLFVODPOTCKSCNKNTDSRCAROLB-NERTCRDCKPRR 214

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VEGA_MOUSE
ID VEGA_MOUSE STANDARD; PRT; 214 AA.
AC 000731.
DT 01-APR-1993 (Rel. 25, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxId=10090;
RN [1]
RP MEDLINE=92274860; Pubmed=1592003;
RA Breier G., Albrecht U., Steier S., Risau W.;
RT "Expression of vascular endothelial growth factor during embryonic
RT angiogenesis and endothelial cell differentiation.";
RL Development 114:521-532(1992).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM VEGF-1).
RX MEDLINE=92355593; Pubmed=1644816;
RA Clafiey K.P., Wilkison W.O., Spiegelman B.M.;
RT "Vascular endothelial growth factor. Regulation by cell
RT differentiation and activated second messenger pathways.";
RL J. Biol. Chem. 267:16317-16322(1992).
RN [3]
RP SEQUENCE OF 1-3 FROM N.A.
RX MEDLINE=96216498; Pubmed=8632007;
RA Shima D.T., Kuroki M., Deutsch U., Ng Y., Adams A.P., D'Amore P.A.;
RT "The mouse gene for vascular endothelial growth factor. Genomic
RT structure, definition of the transcriptional unit, and
RT characterization of transcriptional and post-transcriptional
RT regulatory sequences.";
RL J. Biol. Chem. 271:3877-3883(1996).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3
CC remains cell-surface associated unless released by heparin.
CC -1- ALTERNATIVE PRODUCTS:
CC Event-Alternative splicing; Named isoforms=3;
CC Name=VEGF-3; Synonyms=VEGF188;
CC IsoId=Q00731-1; Sequence=Displayed;
CC Name=VEGF-1; Synonyms=VEGF164;
CC IsoId=Q00731-2; Sequence=VSP_004626; VSP_004627;
CC Name=VEGF-2; Synonyms=VEGF120;
CC IsoId=Q00731-3; Sequence=VSP_004628;
CC -1- TISSUE SPECIFICITY: In developing embryos, expressed mainly in the
CC choroid plexus, paraventricular neuroepithelium, placenta and
CC kidney glomeruli. Also found in bronchial epithelium, adrenal
CC gland and in seminiferous tubules of testis. High expression of
CC VEGF continues in kidney glomeruli and choroid plexus in adults.
CC -1- DOMAIN: VEGF-3 contains a basic insert which acts as a cell
CC retention signal.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; S37052; AAB22252.1; -
DR EMBL; S38083; AAB22253.1; -

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DR EMBL; S38100; AAB22254.1; -.
DR EMBL; M95200; AAA40547.1; -.
DR EMBL; U41363; -; NOT_ANNOTATED_CDS.
DR PIR; A44881; A44881.
DR PIR; B44881; B44881.
DR HSSP; P15692; 2VPP.
DR MGD; MG1:103178; Vegfa.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 1 214
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CAROXYD 100 100
FT VARSPLIC 140 140
FT VARSPLIC 141 164
FT VARSPLIC 141 208
FT CONFLICT 117 118
FT SEQUENCE 214 AA; 25283 MW; B5540B51E4BB6E17 CRC64;

Query Match
Query Local Similarity 86.9%; Score 206; DB 1; Length 214;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

2 ERRKILFV---OTCKSCSKATDSRCAROLE-NERTCRCDKPRR 41
Db 171 ERRKILFVDDPOTCKSCSKATDSRCAROLENERTCRCDKPRR 214

RESULT 7
VEGA RAT STANDARD; PRT; 214 AA.
AC P16612; O9JKX7; O9QXG6; O9QXG7;
DT 01-AUG-1990 (Rel. 15, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPE).
GN VEGF OR VEGFA.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxId=10116;
[1]
RP SEQUENCE FROM N.A. (ISOPFORM VEGF-A164), AND SEQUENCE OF 27-190.
RA MEDLINE:90207249; PubMed:2320579;
RA Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A.,
RA Palisi T.M., Hope D.A., Thomas K.A.;
RA "Amino acid and cDNA sequences of a vascular endothelial cell mitogen
RA that is homologous to platelet-derived growth factor.",
RL Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633 (1990).
RN [2]
RN SEQUENCE FROM N.A. (ISOPFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND
RN VEGF-A120).
RA Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;
RA "Developmental expression of vascular endothelial growth factor-A
RA (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat
RA muscle.",
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
RN [3]
RN SEQUENCE OF 27-40.

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RC TISSUE=Glial tumor;
RX MEDLINE:95221439; PubMed:7706320;
RA Disalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
RA Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;
RA "Purification and characterization of a naturally occurring vascular
RA endothelial growth factor: placenta growth factor heterodimer.",
RL J. Biol. Chem. 270:7717-7723 (1995).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PLGF (By similarity).
CC -1- SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted.
CC VEGF-A164 is more basic, has heparin-binding properties and,
CC although a significant proportion remains cell-associated, most is
CC freely secreted. VEGF-A188 is very basic; it is cell-associated
CC after secretion and is bound avidly by heparin and the
CC extracellular matrix, although it may be released as a soluble
CC form by heparin, heparinase or plasmin (By similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=4;
CC Comment=Additional isoforms seem to exist;
CC Name=VEGF-A188;
CC IsoId=P16612-1; Sequence=Displayed;
CC Name=VEGF-A164;
CC IsoId=P16612-2; Sequence=VSP_004629, VSP_004630;
CC Name=VEGF-A144;
CC IsoId=P16612-3; Sequence=VSP_004632;
CC Name=VEGF-A120;
CC IsoId=P16612-4; Sequence=VSP_004631;
CC -1- TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in
CC particularly in supraoptic and paraventricular nuclei and the
CC choroid plexus. Also found abundantly in the corpus luteum of the
CC ovary and in kidney glomeruli.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; M32167; AAA41211.1; -.
DR EMBL; AF215725; AAF19211.1; -.
DR EMBL; AF215726; AAF19212.1; -.
DR EMBL; AF222779; AAF25956.1; -.
DR HSSP; P15692; 1VPP.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 1 214
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CAROXYD 100 100
FT VARSPLIC 140 140
FT VARSPLIC 141 164
FT VARSPLIC 141 208

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FT  VASPLC 165 208 /FTId=VSP 004631.
RT  VASPLC 165 208 Missing (in isoform VEGF-A144).
FT  CONFLICT 101 101 /FTId=VSP 004632.
SQ  SEQUENCE 214 AA; 25239 MW; 60FB876F5304946 CRC64;
    V -> A (IN REF. 2; AAF19212).

Query Match
Best Local Similarity 96.9%; Score 206; DB 1; Length 214;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

Oy 2 ERRKLFV--QTKCKSCNMTDSRCKARQLNERTCRCKR 41
Db 171 ERRKLFVDPQTKCKSCNMTDSRCKARQLNERTCRCKR 214

RESULT 8
VEGA HUMAN STANDARD; PRT; 232 AA.
AC P15692; O60720; O75875; Q16889; Q96NWS; Q9H1W8; Q9H1W9; Q9UH58;
AC Q9U23;
DT 01-APR-1990 (Rel. 14, Created)
DT 28-SEP-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
OX NCBI_TaxID=9606;
RN 1 SEQUENCE FROM N.A. (ISOFORMS VEGF189 AND VEGF165).
RX MEDLINE=90069608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kiang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic
RT mitogen.";
RL Science 246:1306-1309 (1989).
RN 2 SEQUENCE FROM N.A. (ISOFORM VEGF189), AND PARTIAL SEQUENCE.
RX MEDLINE=90069609; PubMed=2479987;
RA Keck P.J., Hauser S.D., Kivvi G., Sanzo K., Warren T., Feder J.,
RA Connolly D.T.;
RT "Vascular permeability factor, an endothelial cell mitogen related to
RT PDGF.";
RL Science 246:1309-1312 (1989).
RN 3 SEQUENCE FROM N.A. (ISOFORM VEGF189).
RX MEDLINE=91268072; PubMed=1711045;
RA Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,
RA Fiddes J.C., Abraham J.A.;
RT "The human gene for vascular endothelial growth factor. Multiple
RT protein forms are encoded through alternative exon splicing.";
RL J. Biol. Chem. 266:11947-11954 (1991).
RN 4 SEQUENCE FROM N.A. (ISOFORM VEGF206).
RX MEDLINE=92168017; PubMed=1791831;
RA Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;
RT "The vascular endothelial growth factor family: identification of a
RT fourth molecular species and characterization of alternative splicing
RT of RNA.";
RL Mol. Endocrinol. 5:1806-1814 (1991).
RN 5 SEQUENCE FROM N.A. (ISOFORM VEGF155).
RX MEDLINE=92231879; PubMed=1567395;
RA Weindel K., Marne D., Welch H.A.;
RT "AIDS-associated Kaposi's sarcoma cells in culture express vascular
RT endothelial growth factor.";
RL Biochem. Biophys. Res. Commun. 183:1167-1174 (1992).
RN 6 SEQUENCE FROM N.A. (ISOFORM VEGF145).
RX MEDLINE=9720775; PubMed=9054410;
RA Poltorak Z., Cohen T., Sivan R., Kandelis Y., Spira G., Vlodavsky I.,
RA Keshet E., Neufeld G.;

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RT  "VEGF145, a secreted vascular endothelial growth factor isoform that
RT binds to extracellular matrix.";
RL J. Biol. Chem. 272:7151-7158 (1997).
RN 17 SEQUENCE FROM N.A. (ISOFORM VEGF183).
RP SEQUENCE=Kidney;
RX MEDLINE=99096474; PubMed=9878851;
RA Lei J., Jiang A., Pei D.;
RT "Identification and characterization of a new splicing variant of
RT vascular endothelial growth factor: VEGF183.";
RL Biochim. Biophys. Acta 1443:400-406 (1998).
RN 8 SEQUENCE FROM N.A. (ISOFORM VEGF165).
RC TISSUE=Breast;
RX MEDLINE=98119755; PubMed=9450968;
RA Clafey K.P., Shih S.-C., Mullen A., Dziennis S., Cusick J.L.,
RA Abrams K.R., Lee S.W., DeCmar M.;
RT "Identification of a human VEGF 3' untranslated region mediating
RT hypoxia-induced mRNA stability.";
RL Mol. Biol. Cell 9:469-481 (1998).
RN 9 SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
RC TISSUE=Retina;
RX MEDLINE=99165303; PubMed=10067980;
RA Jingjing L., Xue Y., Agarwal N., Roque R.S.;
RT "Human Muller cells express VEGF183, a novel spliced variant of
RT vascular endothelial growth factor.";
RL Invest. Ophthalmol. Vis. Sci. 40:752-759 (1999).
RN 10 SEQUENCE FROM N.A. (ISOFORM VEGF165).
RC TISSUE=Hemangioendothelioma;
RA Murata H., Fukuhima J., Hattori S., Okuda K., Yanagi H.;
RT "Human cDNA for the vascular endothelial growth factor isoform
RT VEGF165.";
RL Submitted (DEC-1998) to the EMBL/GenBank/DBJ databases.
RN 11 SEQUENCE FROM N.A. (ISOFORM VEGF148).
RC TISSUE=Renal glomerulus;
RX MEDLINE=99394945; PubMed=10464055;
RA Whittle C.J., Gillespie K.M., Harrison R., Mathieson P.W.,
RA Harper S.J.;
RT "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA
RT and receptor mRNA expression in human glomeruli, and the
RT identification of VEGF148 mRNA, a novel truncated splice variant.";
RL Clin. Sci. 97:303-312 (1999).
RN 12 SEQUENCE FROM N.A. (ISOFORM VEGF121).
RX Sato J.D., Whitney R.G.;
RT "Human cDNA for vascular endothelial growth factor isoform VEGF121.";
RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
RN 13 SEQUENCE FROM N.A.
RA Williams S.;
RL Submitted (DEC-2000) to the EMBL/GenBank/DBJ databases.
RN 14 SEQUENCE OF 23-232 FROM N.A. (VEGF165).
RX Rieder M.U., Armet T.Z., Carrington D.P., Chung M.-W., Lee K.L.,
RX Poel C.L., Toth E.J., Yi Q., Nickerson D.A.;
RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
RN 15 PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
RX MEDLINE=90062112; PubMed=2584205;
RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R.,
RA Siegel N., Haymore B.L., Leimgruber R., Feder J.;
RT "Human vascular permeability factor. Isolation from U937 cells.";
RL J. Biol. Chem. 264:20017-20024 (1989).
RN 16 SEQUENCE OF 27-41.
RX MEDLINE=93145946; PubMed=7678805;
RA Fiebig B.L., Jaeger B., Schoelmann C., Weindel K., Wiltling J.,
RA Kochs G., Marne D., Hug H., Welch H.A.;
RT "Synthesis and assembly of functionally active human vascular
RT endothelial growth factor homodimers in insect cells.";

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RL Eur. J. Biochem. 211:19-26(1993).
 RN [17]
 RN X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
 RX MEDLINE=97352774; PubMed=9207067;
 RA Muller Y.A., Li B., Christinger H.W., Wells J.A., Cunningham B.C.,
 RA de Vos A.M.;
 RT "Vascular endothelial growth factor: crystal structure and functional
 RT mapping of the kinase domain receptor binding site."
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
 RN [18]
 RN X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
 RX MEDLINE=98035455; PubMed=9351807;
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.;
 RT "The crystal structure of vascular endothelial growth factor (VEGF)
 RT refined to 1.93-A resolution: multiple copy flexibility and receptor
 RT binding."
 RL Structure 5:1325-1338(1997).
 RN [19]
 RN X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RX MEDLINE=99119204; PubMed=9922142;
 RA Wiseman C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA Faibrother W.J., Keenan C.J., Meng G., de Vos A.M.;
 RT "Crystal structure of the complex between VEGF and a receptor-blocking
 RT peptide."
 RL Biochemistry 37:17765-17772(1998).
 RN [20]
 RN STRUCTURE BY NMR OF 34-135.
 RX MEDLINE=97477915; PubMed=9336848;
 RA Faibrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starvasnik M.A.;
 RT "1H, 13C, and 15N backbone assignment and secondary structure of the
 RT receptor-binding domain of vascular endothelial growth factor."
 RL Protein Sci. 6:2250-2260(1997).
 RN [21]
 RN STRUCTURE BY NMR OF 137-215.
 RX MEDLINE=98298440; PubMed=9634701;
 RA Faibrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starvasnik M.A.;
 RT "Solution structure of the heparin-binding domain of vascular
 RT endothelial growth factor."
 RL Structure 6:637-648(1998).
 RN [22]
 RN FUNCTION.
 RX MEDLINE=21320570; PubMed=11427521;
 RA Murphy J.F., Fitzgerald D.J.;
 RT "Vascular endothelial growth factor induces cyclooxygenase-dependent
 RT proliferation of endothelial cells via the VEGF-2 receptor."
 RL FASEB J. 15:1667-1669(2001).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin. Neupillin-1 binds isoforms VEGF-165 and VEGF-145.
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF121 is acidic and freely secreted.
 CC VEGF165 is more basic, has heparin-binding properties and,
 CC although a significant proportion remains cell-associated, most is
 CC freely secreted. VEGF189 is very basic; it is cell-associated
 CC after secretion and is bound avidly by heparin and the
 CC extracellular matrix, although it may be released as a soluble
 CC form by heparin, heparinase or plasmin.
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=7;
 CC Comment=Experimental confirmation may be lacking for some
 CC isoforms;
 CC Name=VEGF206;
 CC IsoId=P15692-1; Sequence=Displayed;
 CC Name=VEGF189;
 CC IsoId=P15692-2; Sequence=VSP_004622;
 CC

Query Match

86.9%; Score 206; DB 1; Length 232;

Best Local Similarity 90.9%; Pred. No. 1.3e-17;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCGRCDKPRR 41
 DB 189 ERRKHLFVQDPQTCCKSKNTDSRCKARQLELNERTCGRCDKPRR 232

RESULT 9

VEGA_CAVPO STANDARD; PRT; 164 AA.

AC P26617;
 DT 01-AUG-1992 (Rel. 23, Created)
 DT 01-AUG-1992 (Rel. 23, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability
 DE factor) (VFP).
 GN VEGF OR VEGFA.
 OS Cavia porcellus (Guinea pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
 OX NCBI_TaxId=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Bile duct;
 RA Berse B.;
 RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.

-1- FUNCTION: Growth factor active in angiogenesis, and endothelial

cell growth. Induces endothelial proliferation and vascular

permeability (By similarity).

-1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer

with PlGF (By similarity).

-1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or

to the extracellular matrix unless released by heparin (By

similarity).

-1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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DR EMBL; M84230; AAA37057.1; -.

DR HSSP; P15692; VEGF.

DR InterPro; IPR000072; PD_growth_factor.

DR Pfam; PF00341; PDGF_1.

DR PRODOM; PD001629; PD_growth_factor; 1.

DR SMART; SM00141; PDGF_1.

DR PROSITE; PS00249; PDGF_1; 1.

DR PROSITE; PS0278; PDGF_2; 1.

KW Mitogen; Angiogenesis; Growth factor; Glycoprotein.

FT DISULFID 25 67 BY SIMILARITY.

FT DISULFID 56 101 BY SIMILARITY.

FT DISULFID 60 103 BY SIMILARITY.

FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).

FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).

FT CARBOHYD 74 74 N-LINKED (GLCNAC...) (POTENTIAL).

SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DCA4 CRC64;

Query Match 85.7%; Score 203; DB 1; Length 164;

Best Local Similarity 88.6%; Pred. No. 2.1e-17;

Matches 39; Conservative 1; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCGRCDKPRR 41

DB 121 ERRKHLFVQDPQTCCKSKNTDSRCKARQLELNERTCGRCDKPRR 164

RESULT 10

VEGA_CHICK

VEGF CHICK STANDARD; PRT; 216 AA.
 PS2582; 091420;
 01-OCT-1996 (Rel. 34, Created)
 15-JUN-1998 (Rel. 36, Last sequence update)
 15-SEP-2003 (Rel. 42, Last annotation update)
 Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 VEGF OR VEGFA.
 Gallus gallus (Chicken), and
 Coturnix coturnix japonica (Japanese quail).
 Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 Actinopterygii; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 Gallus.
 NCBI_TaxID=9031, 93934;
 [1]
 SEQUENCE FROM N.A.
 SPECIES=Chicken; TISSUE=Heart;
 Takahashi T.;
 "Chick embryonic ventricular myocytes VEGF";
 Submitted (FEB-1998) to the EMBL/Genbank/DDBJ databases.
 [2]
 SEQUENCE FROM N.A. (ISOFORMS VEGF-190; VEGF-166 AND VEGF-146).
 SPECIES=C.c.japonica; TISSUE=Embryo;
 MEDLINE=96005007; PubMed=7556923;
 Flame I., von Reutern M., Drexler H.C., Syed-Ali S., Risau W.;
 "Overexpression of vascular endothelial growth factor in the avian embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formation.";
 Dev. Biol. 171:399-414(1995).
 [3]
 SEQUENCE OF 60-187 FROM N.A. (ISOFORMS VEGF-190 AND VEGF-166).
 SPECIES=C.c.japonica;
 MEDLINE=95301109; PubMed=7781909;
 Flame I., Breier G., Risau W.;
 "Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (Flk-1) are expressed during vasculogenesis and vascular differentiation in the quail embryo";
 Dev. Biol. 169:699-712(1995).
 [4]
 FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 [5]
 SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 [6]
 ALTERNATIVE PRODUCTS:
 Event=Alternative splicing; Named isoforms=3;
 Comment=Additional isoforms seem to exist;
 Name=VEGF-190;
 IsoId=PS2582-1; Sequence=Displayed;
 Name=VEGF-166;
 IsoId=PS2582-2; Sequence=VSP_004633; VSP_004634;
 Note=Has been shown to exist only in quail so far;
 Name=VEGF-146;
 IsoId=PS2582-3; Sequence=VSP_004633; VSP_004636;
 Note=Has been shown to exist only in quail so far;
 [7]
 TISSUE SPECIFICITY: Abundantly and equally expressed in heart and liver. In kidney glomeruli, brain and yolk sac. VEGF-166 is 5- to 10-times more abundant than VEGF-190.
 [8]
 DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1 and is upregulated during gastrulation. Expression of VEGF-190 is detectable only from day 2.
 [9]
 DOMAIN: VEGF-190 contains a basic insert which acts as a cell retention signal.
 [10]
 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 [11]
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 CC EMBL: AB011076; BAA24925.1; -
 CC EMBL: S79680; AAB35371.1; -
 DR HSSP: P15692; IYGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF_1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF_1.
 DR PROSITE: PS00249; PDGF_1; 1.
 DR PROSITE: PS0278; PDGF_2; 1.
 KM Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Alternative splicing; Multigene family.
 BY SIMILARITY.
 FT SIGNAL 1 26
 FT CHAIN 27 216 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 52 94 BY SIMILARITY.
 FT DISULFID 83 128 BY SIMILARITY.
 FT DISULFID 87 130 BY SIMILARITY.
 FT DISULFID 77 77 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 86 86 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 101 101 N-LINKED (GLCNAC...) (POTENTIAL).
 FT VASAPLIC 142 142 K->N (in isoform VEGF-166).
 FT VASAPLIC 143 166 /FTId=VSP_004633.
 FT VASAPLIC 166 166 Missing (in isoform VEGF-166).
 FT VASAPLIC 166 166 /FTId=VSP_004634.
 FT VASAPLIC 167 210 F->L (in isoform VEGF-146).
 FT VASAPLIC 167 210 /FTId=VSP_004635.
 FT VASAPLIC 167 210 Missing (in isoform VEGF-146).
 FT VASAPLIC 167 210 /FTId=VSP_004636.
 SQ SEQUENCE 216 AA; 25203 MW; 82E659C2F6FC6DAV CRC64;
 Query Match 80.2%; Score 190; DB 1; Length 216;
 Best Local Similarity 84.1%; Pred. No. 9, 1e-16;
 Matches 37; Conservative 2; Mismatches 1; Indels 4; Gaps 2;
 QY 2 ERRKLFV---QTCCKSCNTDSRCARQLE-NERTCKDCKPR 41
 DB 173 ERRKLFVQDPQCTCKSCKFTDSRCKSQLELNERTCKCEKPR 216
 RESULT 11
 VEGF HUMAN STANDARD; PRT; 419 AA.
 ID VEGF HUMAN
 AC P49767;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 36, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vascular endothelial growth factor C precursor (VEGF-C) (Vascular endothelial growth factor related protein) (VRP) (Flt4 ligand) (Flt4-l).
 GN VEGFC.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 OX NCBI_TaxID=9606;
 [1]
 SEQUENCE FROM N.A. AND SEQUENCE OF 103-120.
 MEDLINE=96178224; PubMed=8617204;
 Joukov V., Pajusola K., Kaipainen A., Chillov D., Lahtinen I., Kukk E., Saksela O., Kalkkinen N., Alitalo K.;
 "A novel vascular endothelial growth factor, VEGF-C, is a ligand for the Flt4 (VEGFR-3) and KDR (VEGFR-2) receptor tyrosine kinases";
 EMBO J. 15:290-298(1996).
 [2]
 RP ERRATUM.
 MEDLINE=96203094; PubMed=8612600;
 RA Joukov V., Pajusola K., Kaipainen A., Chillov D., Lahtinen I., Kukk E., Saksela O., Kalkkinen N., Alitalo K.;
 EMBO J. 15:1751-1751(1996).
 [3]
 SEQUENCE FROM N.A.
 TISSUE=Gial tumor;
 MEDLINE=96312526; PubMed=8700872;

RA Lee J., Gray A., Yuan J., Luoh S.-M., Avraham H., Wood W.I.;
RT "Vascular endothelial growth factor-related protein: a ligand and
RT specific activator of the tyrosine kinase receptor Flt4.";
RT Proc. Natl. Acad. Sci. U.S.A. 93:1988-1992(1996).
RN (4)
RN SEQUENCE FROM N.A.
RP MEDLINE=97388482; PubMed=9247316;
RX Fitz L.J., Morris J.C., Towler P., Long A., Burgess P., Greco R.,
RA Wang Y., Gassaway R., Nickbarg E., Kovacic S., Clarietta A.,
RA Giannotti J., Finnerty H., Zollner R., Belter D.R., Leak L.V.,
RA Turner K.J., Wood C.R.;
RT "Characterization of murine Flt4 ligand/VEGF-C";
RL Oncogene 15:613-618(1997).
RN (5)
RN SEQUENCE OF 32-41; 112-121 AND 228-233, AND MUTAGENESIS OF ARG-227.
RP MEDLINE=97377029; PubMed=9233800;
RX Jonkov V., Sorsa T., Kumar V., Jeltsch M., Claesson-Welsh L., Cao Y.,
RA Saksela O., Kalkkinen N., Alitalo K.;
RT "Proteolytic processing regulates receptor specificity and activity of
RT VEGF-C";
RL EMOJ 16:3898-3911(1997).
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth, stimulating their proliferation and migration and
CC also has effects on the permeability of blood vessels. May
CC function in angiogenesis of the venous and lymphatic vascular
CC systems during embryogenesis, and also in the maintenance of
CC differentiated lymphatic endothelium in adults. Binds and
CC activates VEGFR-2 (Flk1) and VEGFR-3 (Flt4) receptors.
CC -1- SUBUNIT: Homodimer; non-covalent and antiparallel.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC -1- TISSUE SPECIFICITY: Spleen, lymph node, thymus, appendix, bone
CC marrow, heart, placenta, ovary, skeletal muscle, prostate, testis,
CC colon and small intestine and fetal liver, lung and kidney, but
CC not in peripheral blood lymphocyte.
CC -1- PTM: Undergoes a complex proteolytic maturation which generates a
CC variety of processed secreted forms with increased activity toward
CC VEGFR-3, but only the fully processed form could activate VEGFR-2.
CC VEGF-C first form an antiparallel homodimer linked by disulfide
CC bonds. Before secretion, a cleavage occurs between arg-227 and
CC ser-228 producing an heterotetramer. The next extracellular step
CC of the processing removes the N-terminal propeptide. Finally the
CC mature VEGF-C is composed mostly of two VEGF homology domains
CC (VHds) bound by non-covalent interactions.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC -----
DR EMBL, X94216; CAA63907.1; -;
DR EMBL, U43142; AAA85214.1; -;
DR EMBL, U58111; AAB02909.1; -;
DR PIR, S69207; S69207.
DR HSSP, P15692; 1VP.
DR Genew, HGNC:12682; VEGFC.
DR MIM, 601528; -;
DR GO, GO:0007515; P:lymph gland development; TAS.
DR GO, GO:0008284; P:positive regulation of cell proliferation; TAS.
DR GO, GO:0007165; P:signal transduction; TAS.
DR GO, GO:0006929; P:substrate-bound cell migration; TAS.
DR InterPro, IPR004153; CXKC repeat.
DR InterPro, IPR002400; GF_cyknoc.
DR InterPro, IPR000072; PD_growth_factor.
DR Pfam, PF03128; CXKC; 5.
DR Pfam, PF00341; PDGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR PRODOM, PD001629; PD_growth_factor; 1.
DR SMART, SM00141; PDGF_1.
DR PROSITE, PS00249; PDGF_1; 1.

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CC      PROSITE PS50278; PDGF 2; 1.
CC      KW Angiogenesis; Mitogen; Growth factor; Glycoprotein; Signal; Repeat;
CC      KW Cleavage on pair of basic residues; Multigene family.
CC      FT SIGNAL 1 31
CC      FT PROPEP 32 111
CC      FT CHAIN 112 227
CC      FT PROPEP 128 419
CC      FT DOMAIN 280 362
CC      FT REPEAT 280 295
CC      FT REPEAT 304 319
CC      FT REPEAT 328 343
CC      FT REPEAT 347 362
CC      FT DISULFID 131 173
CC      FT DISULFID 162 209
CC      FT DISULFID 166 211
CC      FT DISULFID 156 156
CC      FT DISULFID 165 165
CC      FT CARBOHYD 175 175
CC      FT CARBOHYD 205 205
CC      FT CARBOHYD 240 240
CC      FT MUTAGEN 227 227
CC      SQ SEQUENCE 419 AA; 46883 MW; 9F59E8719DB38014F CRC64;
CC      Query Match 31.2%; Score 74; DB 1; Length 419;
CC      Best Local Similarity 39.5%; Pred. No. 0.078;
CC      Matches 15; Conservative 6; Mismatches 15; Indels 2; Gaps 1;
CC      QY 1 CERRKHLFVOTCKSCCKNT--DSRCCKAROLENERTCIC 36
CC      DB 304 CGPHKEIDRNSCQCVCKNKLFPSCGAGNREPENTCQC 341
CC      RESULT 12
CC      ID BAR3 CHITE STANDARD; PRT; 1700 AA.
CC      AC Q03376;
CC      DT 01-OCT-1993 (Rel. 27, Created)
CC      DT 01-OCT-1993 (Rel. 27, Last sequence update)
CC      DT 16-OCT-2001 (Rel. 40, Last annotation update)
CC      DE Balbani ring protein 3 precursor.
CC      OS Chironomus tentans (Midge).
CC      OC Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
CC      OC Neoptera; Endopterygota; Diptera; Nematocera; Chironomidae;
CC      OC Chironomidae; Chironominae; Chironomus.
CC      OX NCBI_TaxID=7153;
CC      RN [1]
CC      RP SEQUENCE FROM N.A.
CC      RC TISSUE=Salivary gland;
CC      RX MEDLINE=90172404; PubMed=1689777;
CC      RA Paulsen G., Lendahl U., Galli J., Ericsson C., Wieslander L.;
CC      RT "The Balbani ring 3 gene in Chironomus tentans has a diverged
CC      RT repetitive structure split by many introns.";
CC      RL J. Mol. Biol. 211:331-349(1990).
CC      CC -!- FUNCTION: USED BY THE LARVAE TO CONSTRUCT A SUPRAMOLECULAR
CC      CC STRUCTURE, THE LARVAL TUBE. BALBANI RING PROTEIN 3 COULD PLAY A
CC      CC ROLE AS A TRANSPORT PROTEIN THAT BINDS TO OTHER PROTEINS
CC      CC INTRACELLULARLY AND IN THE GLAND LUMEN IN ORDER TO PREVENT THESE
CC      CC FROM FORMING WATER-INSOLUBLE FIBERS TOO EARLY.
CC      CC -!- SUBCELLULAR LOCATION: Secreted.
CC      CC -!- TISSUE SPECIFICITY: SALIVARY GLAND.
CC      CC -!- DOMAIN: HAS 82 APPROXIMATE REPEATS OF CYS-X-CYS-X-CYS.
CC      CC -----
CC      CC This SWISS-PROT entry is copyright. It is produced through a collaboration
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CC      CC or send an email to license@isb-eb.ch).
CC      CC -----

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DR EMBL: X52263; CAA36506.1; -.
DR PIR: S08167; S08167.
DR HSP: P15358; 1SKZ.
DR InterPro: IPR004153; CXKCX_repeat.
DR Pfam: PF03128; CXKCX; 71.
DR Repeat: Signal.
FT SIGNAL 1 20
FT CHAIN 21 1700 BALBIANI RING PROTEIN 3.
SQ SEQUENCE 1700 AA; 186145 MW; 342028521B0815 CRC64;

Query Match
Best Local Similarity 30.0%; Score 71; DB 1; Length 1700;
Matches 15; Conservative 5; Mismatches 11; Indels 8; Gaps 2;

1 CERHKLFPVQCKSCKNTDSRCKAROLENERTCRC DKP 39
126 CER-----SCACVCPNAD-KCTAPQVWKNKDTCCGCP 156

RESULT 13
VEGC_MOUSE STANDARD; PRT; 415 AA.
AC P97953;
DT 15-JUL-1998 (Rel. 36, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor C precursor (VEGF-C) (Vascular
DE endothelial growth factor related protein) (VRP) [Flt4 ligand] [Flt4-
DE l].
GN VEGFC.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OC NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=BALB/C;
RX MEDLINE=97164697; PubMed=9012504;
RA Kulk E., Lybounsaeki A., Taira S., Kaipainen A., Jeltsch M.,
RA Joukov V., Ahtalo K.;
RT "VEGF-C receptor binding and pattern of expression with VEGFR-3
RT suggests a role in lymphatic vascular development.";
RL Development 122:3829-3837(1996).
RN [2]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 108-126.
RC STRAIN=BALB/C;
RX MEDLINE=97384842; PubMed=9247316;
RA Pitz L.J., Morris J.C., Towler P., Kovacic S., Charleeta A.,
RA Wang J., Gassaway R., Nickbarg E., Claretta A.,
RA Giannotti J., Finerly H., Zollner R., Beier D.R., Leak L.V.,
RA Turner K.J., Wood C.R.;
RT "Characterization of murine Flt4 ligand/VEGF-C.";
RL Oncogene 15:613-618(1997).
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth, stimulating their proliferation and migration and
CC also has effects on the permeability of blood vessels. May
CC function in angiogenesis of the venous and lymphatic vascular
CC systems during embryogenesis, and also in the maintenance of
CC differentiated lymphatic endothelium in adults. Binds and
CC activates VEGFR-2 (Flk1) and VEGFR-3 (Flt4) receptors.
CC -1- SUBUNIT: Homodimer; non-covalent and antiparallel.
CC -1- TISSUE SPECIFICITY: Secreted.
CC -1- SUBCELLULAR LOCATION: Secreted.
CC postimplantation embryos, particularly in the regions where the
CC lymphatic vessels undergo sprouting from embryonic veins, such as
CC the perimetamphic, axillary and jugular regions, and in the
CC developing mesenterium. Expressed in adult heart, brain, spleen,
CC lung, liver, skeletal muscle and kidney.
CC -1- PTM: Undergoes a complex proteolytic maturation which generates a
CC variety of processed secreted forms with increased activity toward
CC VEGFR-3, but only the fully processed form could activate VEGFR-2.
CC VEGF-C first form an antiparallel homodimer linked by disulfide
CC bonds. Before secretion, a cleavage occurs between arg-227 and

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CC ser-228 producing an heterotrimer. The next extracellular step
CC of the processing removes the N-terminal propeptide. Finally the
CC mature VEGF-C is composed mostly of two VEGF homology domains
CC (VHDS) bound by non-covalent interactions (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC or send an email to license@ebi.ac.uk).
CC -----
DR EMBL: U73620; AAC52984.1; -.
DR EMBL: U58112; AAB46707.1; -.
DR HSP: P15692; 1VPP.
DR MGI: MGI:109124; VEGFC.
DR InterPro: IPR004153; CXKCX_repeat.
DR InterPro: IPR002400; GF_cyknknot.
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF03128; CXKCX; 5.
DR Pfam: PF00341; PDGF; 1.
DR PRINTS: PR00438; GFCYSKNOT.
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART: SM00141; PDGF; 1.
DR PROSITE: PS00249; PDGF; 1.
DR PROSITE: PS00278; PDGF_2; 1.
DR PROSITE: PS00278; PDGF_2; 1.
KM Angiogenesis; Mitogen; Growth factor; Glycoprotein; Signal; Repeat;
KM Cleavage on pair of basic residues; Multigene family.
FT SIGNAL 1 31
FT PROPEP 32 107
FT CHAIN 108 223
FT PROPEP 224 415
FT DOMAIN 276 358
FT REPEAT 276 291
FT REPEAT 300 315
FT REPEAT 324 339
FT REPEAT 343 358
FT DISULFID 127 169
FT DISULFID 158 205
FT DISULFID 162 207
FT DISULFID 152 152
FT DISULFID 161 161
FT CARBOHD 171 171
FT CARBOHD 201 201
FT CARBOHD 236 236
SQ SEQUENCE 415 AA; 46471 MW; D9D3D3C6C659D6 CRC64;

Query Match
Best Local Similarity 29.1%; Score 69; DB 1; Length 415;
Matches 14; Conservative 6; Mismatches 16; Indels 2; Gaps 1;

1 CERHKLFPVQCKSCKNT--DSRCKAROLENERTCRC 36
300 CGPHKELDRDSCQCVCKNKLFPNCGANRERDENTCCG 337

RESULT 14
CRSS_YEAST STANDARD; PRT; 69 AA.
AC P41902;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Metallothionein-like protein CRSS.
GN CRSS OR YOR031W.
OS Saccharomyces cerevisiae (Baker's yeast).
OC Eukaryota; Fungi; Ascomycota; Saccharomycotina; Saccharomycetes;
OC Saccharomycetales; Saccharomycetaceae; Saccharomycetes.
OX NCBI_TaxID=4932;
RN [1]

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RP SEQUENCE FROM N.A.
RX MEDLINE=95014318; PubMed=7929222;
RA Culotta V.C., Howard W.R., Liu X.F.;
RT "CRS5 encodes a metallothionein-like protein in Saccharomyces
RL cerevisiae.";
RL J. Biol. Chem. 269:25295-25302(1994).
RN (12)
RP SEQUENCE FROM N.A.
RC STRAIN=8288C; FY1679;
RA de Haan M., Maarse A.C., Grivell L.A.;
RL Submitted (May-1995) to the EMBL/Genbank/DBJ databases.
CC -1- FUNCTION: CRITICAL ROLE IN COPPER (SPECIFIC) HOMEOSTASIS AND
CC DETOXIFICATION. MAY PROTECT BY DIRECTLY CHELATING AND SEQUESTERING
CC COPPER IONS.
CC -1- SIMILARITY: BELONGS TO THE METALLOTHIONEIN SUPERFAMILY; FAMILY 13.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; I29056; AAA6061.1; .
DR EMBL; X87331; -; NOT_ANNOTATED_CDS.
DR PIR; A55011; A55011.
DR SGD; S0005557; CRS5.
DR GO; GO:0005507; F:copper ion binding activity; IMP.
DR GO; GO:0009412; P:response to heavy metal; IMP.
DR KEGG; Metal-binding; Metal-thiolate cluster.
DR METAL-BINDING; Metal-thiolate cluster.
SQ SEQUENCE 69 AA; 7321 MW; CEEF91203A813FF4 CRC64;

Query Match
Best Local Similarity 31.6%; Score 61; DB 1; Length 69;
Matches 12; Conservative 5; Mismatches 9; Indels 12; Gaps 2;

OY 10 QTCKC-----SKNTDSRKARQLENERTCRCDKPR 40
DB 31 EKCKDHSSTGSPQCKSGCEKCK-----FTCTCKSK 63

RESULT 15
VEGA_SHEEP
ID VEGA_SHEEP STANDARD; PRT; 146 AA.
AC P50412;
DT 01-OCT-1996 (rel. 34, Created)
DT 01-OCT-1996 (rel. 34, Last sequence update)
DT 28-FEB-2003 (rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Ovis aries (Sheep).
OC Eukaryota; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Kidney;
RX MEDLINE=97117958; PubMed=8958842;
RA Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K.,
RA Reynolds L.P., Moor R.M.;
RT "Characterization and expression of vascular endothelial growth
RT factor (VEGF) in the ovine corpus luteum.";
RL J. Reprod. Fertil. 108:157-165(1996).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial growth
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer

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CC with PlGF (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; X89506; CAA61677.1; .
DR PIR; S57956; S57956.
DR HSSP; P15692; 1VPF.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR Mitogen, Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Multigene family.
FT SIGNAL 1
FT CHAIN 27
FT DISULFID 51
FT DISULFID 82
FT DISULFID 86
FT DISULFID 76
FT DISULFID 85
FT CARBOHYD 100
SQ SEQUENCE 146 AA; 17247 MW; 4E792CB557F91760 CRC64;

Query Match
Best Local Similarity 44.1%; Score 61; DB 1; Length 146;
Matches 15; Conservative 4; Mismatches 7; Indels 8; Gaps 2;

OY 8 FVOTCKSCSKNTDSRKARQLENERTCRCDKPR 41
DB 121 FLGHKCECR--PKDKARQF-----KCDKPR 146

```

Search completed: January 30, 2004, 11:41:05
Job time : 10.4615 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

```
Run on:      January 30, 2004, 11:33:38 ; Search time 42.4718 Seconds
              (without alignments)
              249.110 Million cell updates/sec
```

Title: US-09-266-543-6
Perfect 0000000000

Perfect score: 237
Sequence: 1 CERRHLFVQTCCKCKNTD.....RCKARQLENERTCRCDKPRR 41

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues

Total number of hits satisfying chosen parameters: 830525

```
Minimum DB seq. length: 0
Maximum DB seq. length: 2000000000
```

```
Post-processing: Minimum Match 0%
                  Maximum Match 100%
                  Listing first 45 summaries
```

Database :

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1: SP archaea: *
2: SP bacteria: *
3: SP fungi: *
4: SP human: *
5: SP invertebrate: *
6: SP mammal: *
7: SP mhc: *
8: SP organelle: *
9: SP phage: *
10: SP plant: *
11: SP rodent: *
12: SP virus: *
13: SP vertebrate: *
14: SP unclassified: *
15: SP virus: *
16: SP bacteriaph: *
17: SP archaea: *

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB	ID	Description
1	206	86.9	64	6	Q8MT19	Q8MT19 ovis aries
2	206	86.9	102	6	Q9XT61	Q9XT61 macaca fasc
3	206	86.9	102	11	Q61672	Q61672 ratius norv
4	206	86.9	109	6	Q8MI61	Q8MI61 capra hircu
5	206	86.9	131	6	Q8MT86	Q8MT86 capreolus c
6	206	86.9	189	6	Q9SL04	Q9SL04 felis silve
7	206	86.9	180	6	Q77643	Q77643 ovis aries
8	206	86.9	130	11	Q91Z81	Q91Z81 ratius norv
9	206	86.9	150	11	Q9GX39	Q9GX39 spalax leucu
10	206	86.9	191	4	Q96182	Q96182 homo sapien
11	206	86.9	191	6	Q95ME5	Q95ME5 macaca fasc
12	201	84.8	113	6	Q8MT20	Q8MT20 ovis aries
13	190	80.2	194	13	Q42572	Q42572 xenopus laeae
14	184	77.6	142	11	Q9ER16	Q9ER16 mesocricetue
15	176.5	74.5	110	11	Q88911	Q88911 ratius norv
16	169	71.3	123	6	Q9NTS1	Q9NTS1 capreolus c

17	169	71.3	184	6	Q8HY70	mustela vis
18	169	71.3	191	4	Q96K70	Q96K70 homo sapien
19	159	67.1	188	13	Q73682	Q73682 brachydanio
20	139.5	58.9	65	11	Q91Y68	Q91Y68 rattus norv
21	139.5	58.9	89	11	Q91Y66	Q91Y66 rattus norv
22	82	34.6	1704	5	Q94446	Q94446 chironomus
23	81.5	34.4	1208	5	Q88P15	Q88P15 equus cabal
24	75	31.6	1698	6	Q94438	Q94438 chironomus
25	72	30.4	326	11	Q91ZH6	Q91Zh6 meriones um
26	72	30.4	420	6	Q9XS50	Q9XS50 bos taurus
27	68	28.7	188	4	Q8TEV2	Q8TEV2 homo sapien
28	67.5	28.5	124	6	Q9GKU0	Q9GKU0 callithrix
29	66	27.8	415	11	Q91ZE3	Q91ZE3 rattus norv
30	64.5	27.2	314	5	Q9BLX1	Q9BLX1 dirosophila
31	64.5	27.2	325	5	Q9VWP6	Q9VWP6 drosophila
32	62.5	26.4	92	10	P82620	P82620 arabidopsis
33	62	26.2	304	5	Q9N413	Q9N413 caenorhabdi
34	62	26.2	508	16	Q8G7S3	Q8G7S3 bifidobacte
35	61	25.7	63	5	Q83R03	Q83R03 chironomus
36	61	25.7	65	6	Q8M1N0	Q8M1N0 capra hircu
37	61	25.7	118	6	Q9M2B1	Q9M2B1 ovie aries
38	61	25.7	132	5	Q97450	Q97450 giardia lam
39	61	25.7	150	5	Q95P79	Q95P79 giardia lam
40	61	25.7	418	13	Q57352	Q57352 cornuflus co
41	61	25.7	642	5	Q8MPM6	Q8MPM6 giardia lam
42	61	25.7	739	5	Q9G624	Q9G624 giardia lam
43	60	25.3	268	11	Q9D9H8	Q9D9H8 mus musculu
44	60	25.3	742	5	Q818V3	Q818V3 giardia lam
45	60	25.3	5374	11	Q99ND0	Q99ND0 mus musculu

ALIGNMENTS

RESULT 1

ID	ORGANISM19	PRELIMINARY;	PRT;	64 AA.
AC	OSM119;			
DT	01-OCT-2002 (TEMBLrel. 22, Created)			
DT	01-OCT-2002 (TEMBLrel. 22, Last sequence update)			
DT	01-OCT-2002 (TEMBLrel. 22, Last annotation update)			
DE	Vascular endothelial growth factor 188 isoform (Fragment).			
OS	Ovis aries (Sheep).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea;			
OC	Bovidae; Caprinae; Ovis.			
OX	NCBI_TaxID=9940;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE=Placental artery endothelium;			
RA	Chung J.-Y., Tsai S.C.M., Wen Y.-X., Magness R.R., Zheng J.;			
RT	"Expression of VEGF receptors in ovine placental artery endothelial			
RT	cells.";			
RL	Submitted (AUG-2002) to the EMBL/Genbank/DBJ databases.			
DR	EMBL; AF534638; AA004109.1; --			
FT	NON_TIR	1	1	
QO	SEQUENCE	64 AA;	7674 MW;	88F719596DDEFE66 CRC64;

Query Match	86.9%	Score	206	DB	6	length	64
Best Local Similarity	90.9%	Pred. No.	7.2e-22				
Matches	40	Conservative	0	Mismatches	0	Indels	4
						Gaps	2

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QY      2 ERKHLFV---QTCKSCSKNTDSRCARQLF-NERTCRCKPRR 41
          |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
DB      21 ERKHLFVQDPQTCKSCSKNTDSRCARQLFELNERTCRCKPRR 64

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RESULT 2		
ID	PRELIMINARY;	PRT; 102 AA.
Q9XT61		
AC Q9XT61;		
DT 01-NOV-1999	(TREMBLrel. 12, Created)	
DT 01-NOV-1999	(TREMBLrel. 12, Last sequence update)	

Q9n181 capreolus c

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DT 01-MAR-2003 (TREMBlrel. 23, last annotation update)
DE Vascular endothelial growth factor (Fragment).
GN VEGF.
OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecinae; Macaca.
OX NCBI_TaxID=9541;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Lung;
RA Kim I.K., Ryan A.M., Rohan R., Amano S., Aguilar S., Miller J.W.,
RA Adamis A.P.;
RT "Constitutive expression of VEGF, VEGFR-1 and VEGFR-2 in normal
RT eyes."
RL Submitted (NOV-1998) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF106942; AAD20589.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
FT NON TER 1
SQ SEQUENCE 102 AA; 12065 MW; 5F2D1A765DC29E02 CRC64;

Query Match 86.9%; Score 206; DB 6; Length 102;
Best Local Similarity 90.9%; Pred. No. 1.1e-21;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKLFV---QTCKSCKNTDSRCKAROLE-NERTCRCDKPRR 41
DB 59 ERRKLFVQDPQTCCKSCKNTDSRCKAROLELNERTCRCDKPRR 102

RESULT 3
OY 063672 PRELIMINARY; PRT; 102 AA.
AC 063672; 063672;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1998 (TREMBlrel. 08, last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, last annotation update)
DE Vascular endothelial growth factor (VEGFR188) (Fragment).
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=CD; TISSUE=Lung;
RA Kim I., Ryan A., Rohan R., Aguilar S., Brown L.F.,
RA Miller J., Adamis A.P.;
RL Submitted (MAY-1998) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE OF 29-52 FROM N.A.
RC STRAIN=SPRAGUE-DAWLEY; TISSUE=Brain;
RA Yakovlev A.G., Faden A.S.;
RL Submitted (JUL-1993) to the EMBL/GenBank/DBJ databases.
RN [3]
RP SEQUENCE OF 29-52 FROM N.A.
RC TISSUE=Brain;
RA MEDLINE=93343939; PubMed=8343163;
RA Ladoux A., Frelin C.;
RT "Expression of vascular endothelial growth factor by cultured
RT endothelial cells from brain microvessels."
RL Biochem. Biophys. Res. Commun. 194:799-803(1993).
DR EMBL; AF062644; AAC16448.1; -.
DR EMBL; L20913; AAA42334.1; -.
DR EMBL; S64321; AAB27671.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
FT NON TER 1
SQ SEQUENCE 102 AA; 12163 MW; CDFC6A914D07D2B CRC64;

Query Match 86.9%; Score 206; DB 11; Length 102;
Best Local Similarity 90.9%; Pred. No. 1.1e-21;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

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OY 2 ERRKLFV---QTCKSCKNTDSRCKAROLE-NERTCRCDKPRR 41
DB 59 ERRKLFVQDPQTCCKSCKNTDSRCKAROLELNERTCRCDKPRR 102

RESULT 4
OY 08MINTL PRELIMINARY; PRT; 109 AA.
AC 08MINTL;
DT 01-OCT-2002 (TREMBlrel. 22, Created)
DT 01-OCT-2002 (TREMBlrel. 22, last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, last annotation update)
DE Vascular endothelial growth factor 165 (Fragment).
OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Capra.
OX NCBI_TaxID=9925;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Corpus luteum;
RA Kawate N., Tsuji M., Yamada H., Inaba T., Sawada T.;
RT "Changes of Messenger RNAs Encoding Vascular Endothelial Growth Factor
RT and its Receptors during the Development and Maintenance of Caprine
RT Corpora lutea."
RL Submitted (MAY-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY114352; AAM76673.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS02769; PDGF_2; 1.
FT NON TER 1
SQ SEQUENCE 109 AA; 12656 MW; 912657251A37E023 CRC64;

Query Match 86.9%; Score 206; DB 6; Length 109;
Best Local Similarity 90.9%; Pred. No. 1.1e-21;
Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKLFV---QTCKSCKNTDSRCKAROLE-NERTCRCDKPRR 41
DB 66 ERRKLFVQDPQTCCKSCKNTDSRCKAROLELNERTCRCDKPRR 109

RESULT 5
OY 08MJ86 PRELIMINARY; PRT; 131 AA.
AC 08MJ86;
DT 01-OCT-2002 (TREMBlrel. 22, Created)
DT 01-OCT-2002 (TREMBlrel. 22, last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, last annotation update)
DE Vascular endothelial growth factor-3 (Fragment).
OC Capreolus capreolus (Roe deer).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervidae;
OC Cervidae; Odocoileinae; Capreolus.
OX NCBI_TaxID=9858;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RA Wagener A., Fickel J.;
RT "Detection of VEGF in roe deer testis."
RL Submitted (MAY-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF514284; AAM49789.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS02769; PDGF_2; 1.
FT NON TER 1
SQ SEQUENCE 131 AA; 15358 MW; 99719A58BEAC7FCA CRC64;

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Query Match 86.9%; Score 206; DB 6; Length 131;
 Best Local Similarity 90.9%; Pred. No. 1.3e-21;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
 DB 88 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 131

RESULT 6

O95LQ4 PRELIMINARY; PRT; 189 AA.

ID O95LQ4
 AC O95LQ4;
 DT 01-DEC-2001 (TREMBlrel. 19, Created)
 DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor.
 OS Felis silvestris catus (Cat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Flesipedia; Felidae; Felis.
 NX NCBI_TaxID=9685;

RN [1]
 RP SEQUENCE FROM N.A.
 RA Koga T., Kobayashi Y., Yazawa M., Masuda K., Tsujimoto H.;
 RT "Nucleotide sequence and expression of the feline vascular endothelial
 growth factor."
 RL Submitted (SEP-2001) to the EMBL/GenBank/DBJ databases.

DR EMBL; AB071947; BAB68520.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 189 AA; 22193 MW; C1E4646759AB3FD6 CRC64;

Query Match 86.9%; Score 206; DB 6; Length 189;
 Best Local Similarity 90.9%; Pred. No. 1.8e-21;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
 DB 146 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 189

RESULT 7

O77643 PRELIMINARY; PRT; 190 AA.

ID O77643
 AC O77643;
 DT 01-NOV-1998 (TREMBlrel. 08, Created)
 DT 01-NOV-1998 (TREMBlrel. 08, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor.
 GN VEGF.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Caprinae; Ovis.
 NX NCBI_TaxID=9940;

RN [1]
 RP SEQUENCE FROM N.A.
 RA Cheung C.Y., Brace R.A.;
 RT "Ovine vascular endothelial growth factor: Nucleotide sequence and
 expression in fetal tissues."
 RL Growth Factors 0:0-0(1998).
 DR EMBL; AF071015; AAC23608.1; -.
 DR HSSP; P49763; 1FZV.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.

DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 190 AA; 22342 MW; 0D5E3B3E5C5B739 CRC64;

Query Match 86.9%; Score 206; DB 6; Length 190;
 Best Local Similarity 90.9%; Pred. No. 1.9e-21;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
 DB 147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

RESULT 8

O91ZE1 PRELIMINARY; PRT; 190 AA.

ID O91ZE1
 AC O91ZE1;
 DT 01-DEC-2001 (TREMBlrel. 19, Created)
 DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Rattus.
 NX NCBI_TaxID=10116;

RN [1]
 RP SEQUENCE FROM N.A.
 RA STRAIN=Sprague-Dawley;
 RA Marion S., Lee T.-C.;
 RT "Cloning of multiple VEGF splice variants from hypoxic neonatal rat
 cardiomyocytes."
 RL Submitted (APR-2001) to the EMBL/GenBank/DBJ databases.

DR EMBL; AY033506; AA07526.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 190 AA; 22396 MW; 56937401041F377 CRC64;

Query Match 86.9%; Score 206; DB 11; Length 190;
 Best Local Similarity 90.9%; Pred. No. 1.9e-21;
 Matches 40; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

OY 2 ERRKHLFV---QTCKSCSKNTDSRCKARQLE-NERTCRCDKPRR 41
 DB 147 ERRKHLFVQDPQTCKSCSKNTDSRCKARQLELNERTCRCDKPRR 190

RESULT 9

O90X39 PRELIMINARY; PRT; 190 AA.

ID O90X39
 AC O90X39;
 DT 01-MAY-2000 (TREMBlrel. 13, Created)
 DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor.
 GN VEGF.
 OS Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
 OC Nanospalax.
 NX NCBI_TaxID=30637;

RN [1]
 RP SEQUENCE FROM N.A.
 RA MEDLINE=99313148; PubMed=1036577;
 RA AVIvi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
 RT "Adaptive hypoxic tolerance in the subterranean mole rat Spalax
 ehrenbergi: the role of vascular endothelial growth factor."
 RL FEBS Lett. 452:133-140(1999).
 DR EMBL; AF186236; AAD56245.1; -.


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RA Cleaver O., Tonissen K.F., Saha M.S., Krieg P.A.;
RT "Neovascularization of the Xenopus embryo.";
RL Dev. Dyn. 0:0-0(1997).
DR EMBL; AF008594; AAB63680.1; -.
DR HSSP; P49763; 1FZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
SQ SEQUENCE 194 AA; 22672 MW; 85D7BEC7CEFE17E CRC64;

Query Match 80.2%; Score 190; DB 13; Length 194;
Best Local Similarity 74.5%; Pred. No. 3.5e-19;
Matches 38; Conservative 2; Mismatches 1; Indels 10; Gaps 3;

QY 1 CE-----RRKHLFV---QTCKSCCKNTDSRCKARQLE-NERTCRCDKPRR 41
DB 144 CEPCTEKQRKHLFVQDPQTCCKSCCKNTDSRCKTRQLNLNERTCRCEKPRR 194

RESULT 14
Q9ERL6 PRELIMINARY; PRT; 142 AA.
ID Q9ERL6
AC Q9ERL6;
DT 01-MAR-2001 (Tremblrel. 16, Created)
DT 01-MAR-2001 (Tremblrel. 16, Last sequence update)
DT 01-MAR-2003 (Tremblrel. 23, Last annotation update)
DE Vascular endothelial growth factor VEGF (Fragment).
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
Mesocricetus.
OC NCBI_TaxID=10036;
OX [1]
RN [1]
RP SEQUENCE FROM N.A.
RA Ramesh G., Kondalah P., Seeshagiri P.B.;
RT "Regulation of expression of transforming growth factor-beta's by
RT steroid hormone in the hamster uterus.";
RL Submitted (AUG-2000) to the EMBL/Genbank/DBJ databases.
DR EMBL; AF297627; AAG16241.1; -.
DR HSSP; P49763; 1FZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 142
SQ SEQUENCE 142 AA; 16621 MW; F7DA16D924BE99E CRC64;

Query Match 77.6%; Score 184; DB 11; Length 142;
Best Local Similarity 90.0%; Pred. No. 1.9e-18;
Matches 36; Conservative 0; Mismatches 0; Indels 4; Gaps 2;

QY 2 ERRKHLFV---QTCKSCCKNTDSRCKARQLE-NERTCRCD 37
DB 103 ERRKHLFVQDPQTCCKSCCKNTDSRCKARQLNLNERTCRCD 142

RESULT 15
ID 088911 PRELIMINARY; PRT; 110 AA.
AC 088911;
DT 01-NOV-1998 (Tremblrel. 08, Created)
DT 01-NOV-1998 (Tremblrel. 08, Last sequence update)
DT 01-MAR-2003 (Tremblrel. 23, Last annotation update)
DE Vascular endothelial growth factor A 110 (Fragment).
OS VEGF.
GN VEGF.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN [1]
RP SEQUENCE FROM N.A.
RA STRAIN=Sprague-Dawley, TISSUE=Penis;
RX MEDLINE=9915228; PubMed=9916007;
RA Burchard M., Burchard T., Chen M.W., Shabsigh A., de la Taille A.,
RA Buttan R., Shabsigh R.;
RT "Expression of messenger ribonucleic acid splice variants for vascular
RT endothelial growth factor in the penis of adult rats and humans.";
RL Biol. Reprod. 60:398-404(1999).
DR EMBL; AF080594; AAC6708.1; -.
DR HSSP; P49763; 1FZV.
DR InterPro; IPR002400; GF_cysknot.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR PRINTS; PR00438; GFCSKNOT.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 110
SQ SEQUENCE 110 AA; 12713 MW; B81B79AC08D89F06 CRC64;

Query Match 74.5%; Score 176.5; DB 11; Length 110;
Best Local Similarity 94.1%; Pred. No. 1.8e-17;
Matches 32; Conservative 1; Mismatches 0; Indels 1; Gaps 1;

QY 9 VQTCCKSCCKNTDSRCKARQLE-NERTCRCDKPRR 41
DB 77 MQTCCKSCCKNTDSRCKARQLELNERTCRCDKPRR 110

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Search completed: January 30, 2004, 11:44:41
 Job time : 43.4718 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:08 ; Search time 35.6 Seconds
(without alignments)
115.924 Million cell updates/sec

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Perfect score: 138
Sequence: 1 CNDEGLSEVPESNITQIMRIKPH 26

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues
Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	138	100.0	26	21	Immunogenic peptid
2	133	96.4	101	24	Human VEGF-A recep
3	133	96.4	102	22	VEGFR-1 binding ep
4	133	96.4	105	21	Human colon cancer
5	133	96.4	105	22	Polypeptide encode
6	133	96.4	105	22	Polypeptide encode
7	133	96.4	110	21	Amino acid sequenc
8	133	96.4	110	21	Human vascularend
9	133	96.4	110	22	Primary sequence o

10	133	96.4	110	22	AAB50436	Human VEGF110. Ho
11	133	96.4	110	23	ABB76304	Human vascularend
12	133	96.4	121	12	AAB11385	Human vascularend
13	133	96.4	121	14	AA842607	Human VEGF-121. H
14	133	96.4	121	17	AAW09091	Human VEGF/VPF121
15	133	96.4	121	17	AAW03677	Vascularend perneabil
16	133	96.4	121	17	AA896043	Human vascularend per
17	133	96.4	121	17	AA893977	Vascularend perneabil
18	133	96.4	121	19	AAW40597	VEGF/VPF121. Homo
19	133	96.4	121	20	AAW23943	Amino acid sequenc
20	133	96.4	121	20	AAW08278	Human growth facto
21	133	96.4	121	21	AAW99848	Human vascularend
22	133	96.4	121	22	AAB50428	Mature human vascu
23	133	96.4	121	24	ABB84619	Human VEGF121 mono
24	133	96.4	121	24	AA837329	Human vascularend
25	133	96.4	126	22	AAU08403	Polypeptide encode
26	133	96.4	127	22	AAU08405	Polypeptide encode
27	133	96.4	127	22	AAU08423	Polypeptide encode
28	133	96.4	127	22	AAU08427	Polypeptide encode
29	133	96.4	141	24	ABG71756	Human vascularend
30	133	96.4	145	19	AAW56693	Vascularend endotheli
31	133	96.4	145	20	AAW08279	Human growth facto
32	133	96.4	145	21	AAW69413	Amino acid sequenc
33	133	96.4	145	21	AAW83034	Human vascularend
34	133	96.4	145	22	AAB50432	Human VEGF145. Ho
35	133	96.4	145	23	ABB76300	Human vascularend
36	133	96.4	147	16	AA891075	Human vascularend
37	133	96.4	147	17	AA894001	VEGF121. Homo sap
38	133	96.4	147	19	AAW62524	Amino acid sequenc
39	133	96.4	147	20	AAW33437	Parapox virus VEGF
40	133	96.4	147	21	AAW90402	VEGF encoded by c1
41	133	96.4	147	21	AAW69412	Amino acid sequenc
42	133	96.4	147	21	AAW83033	Human vascularend
43	133	96.4	147	22	AAW89080	Human VEGF splice
44	133	96.4	147	22	AAB50427	Human vascularend
45	133	96.4	147	22	AAB50431	Human VEGF121. Ho

ALIGNMENTS

RESULT 1	
AAB18548	
ID	AAB18548 standard; peptide; 26 AA.
AC	AAB18548;
DT	
DT	15-JAN-2001 (first entry)
DE	Immunogenic peptide fragment derived from FGF and/or VEGF.
XX	
XX	Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer;
KW	vascular endothelial growth factor; hypertroliferative disorder;
KW	haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis;
KW	telangiectasia; psoriasis; scleroderma; pyogenic granuloma;
KW	myocardial angiogenesis; Crohn's disease; plaque neovascularisation;
KW	arteriovenous malformation; corneal disease; rubecosis;
KW	neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia;
KW	arthritis; diabetic neovascularisation; macular degeneration;
KW	wound healing; peptic ulcer; Helicobacter related disease; fracture;
KW	keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;
KW	placentation; cat scratch fever.
OS	Unidentified.
XX	
PN	WO200053219-A2.
XX	
PD	14-SEP-2000.
XX	
PF	10-MAR-2000; 2000WO-US06320.
XX	
PR	11-MAR-1999; 99US-0266543.
XX	

PA (ENTR-) ENTREMED INC.
 XX
 XX Holaday JW, Ruiz A, Madsen J;
 XX WPI: 2000-594263/56.
 DR
 XX An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 PT of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 PS Claim 13; Page 28; 95pp; English.
 CC AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubecosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentalation and cat scratch fever.
 XX
 SQ Sequence 26 AA;
 Query Match 100.0%; Score 138; DB 21; Length 26;
 Best Local Similarity 100.0%; Pred. No. 8.4e-15;
 Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 CNDGGLSVPTRESNITWQIMRIKPH 26
 DB 1 CNDGGLSVPTRESNITWQIMRIKPH 26
 RESULT 2
 ID AAE32330 standard; Protein; 101 AA.
 XX
 AC AAE32330;
 XX
 DT 24-MAR-2003 (first entry)
 XX
 DE Human VEGF-A receptor binding domain.
 XX
 KW Vascular endothelial growth factor; VEGF; angiogenesis; wound healing;
 KW bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer;
 KW lesion; injury; trauma; periodontal condition; protein therapy; human.
 XX
 OS Homo sapiens.
 XX
 PN WO200283851-A2.
 XX
 PD 24-OCT-2002.
 XX
 PF 10-APR-2002; 2002WO-US11406.
 XX
 PR 10-APR-2001; 2001US-0832355.
 XX
 PA (GENV-) GENVEC INC.
 XX
 PI Kovesdi I, Kessler PD;
 XX WPI: 2003-075536/07.
 DR
 XX New fusion protein comprising a non-heparin-binding vascular
 PT endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide
 PT portion, useful for promoting angiogenesis and/or bone growth in
 PT mammals -
 XX
 PS Disclosure; Page 118-119; 191pp; English.

XX
 CC The invention relates to a fusion protein comprising non-heparin binding
 CC vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF
 CC peptide portion useful for promoting angiogenesis and/or bone growth in
 CC mammalian host. The fusion protein is useful for promoting angiogenesis,
 CC wound healing and bone growth. Compositions containing bone growth
 CC promoting fusion protein can be used to treat osteoporosis, rheumatoid
 CC or osteoarthritis, to improve poor bone healing, to promote implant
 CC integration and function of artificial joints and to facilitate bone
 CC reconstruction. They can also be used to treat e.g. ulcers, lesions,
 CC injuries, burns, trauma, periodontal conditions, lacerations and other
 CC conditions. The invention is also useful in protein therapy. The present
 CC sequence is human VEGF-A receptor binding domain.
 XX
 SQ Sequence 101 AA;
 Query Match 96.4%; Score 133; DB 24; Length 101;
 Best Local Similarity 96.2%; Pred. No. 2.7e-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 CNDGGLSVPTRESNITWQIMRIKPH 26
 DB 53 CNDGGLSVPTRESNITWQIMRIKPH 78
 RESULT 3
 ID AAU08484 standard; Peptide; 102 AA.
 XX
 AC AAU08484;
 XX
 DT 21-NOV-2001 (first entry)
 XX
 DE VEGF-1 binding epitope from human VEGF-A.
 XX
 KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGFR-1.
 XX
 OS Homo sapiens.
 XX
 PN WO200162942-A2.
 XX
 PD 30-AUG-2001.
 XX
 PF 26-FEB-2001; 2001WO-US06113.
 XX
 PR 25-FEB-2000; 2000US-0185205.
 PR 18-MAY-2000; 2000US-0205331.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 PA (LICN) LICENTIA OY.
 XX
 PI Alitalo K, Jeltsch MM;
 XX WPI: 2001-536640/59.
 DR
 XX Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX
 PS Example 4; Page 115; 261pp; English.
 CC
 CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,

CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents VEGFR-1 binding epitope from human
 CC VEGF-A.

XX Sequence 102 AA;

SO Query Match 96.4%; Score 133; DB 22; Length 102;

Best Local Similarity 96.2%; Pred. No. 2.7e-13;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTESNITMQRKPH 26

DB 54 CNDGLESVPTESNITMQRKPH 79

RESULT 4

AAB53387 ID AAB53387 standard; Protein; 105 AA.

XX AAB53387;

DT 09-MAR-2001 (first entry)

DE Human colon cancer antigen protein sequence SEQ ID NO:927.

XX Human; colon cancer; colon cancer antigen; diagnosis; detection;
 KM identification; cytostatic; cardioactive; neuroprotective; vulnary;
 KM immunomodulatory; muscular; gynaecological; gastrointestinal;
 KM nephrotropic; antiinfective; antibacterial; gene therapy; wound;
 KM neural disorder; immune system disorder; muscular disorder;
 KM reproductive disorder; gastrointestinal disorder; renal disorder;
 KM infectious disease; cardiovascular disorder.

XX Homo sapiens.

OS WO20005351-A1.

PN 21-SEP-2000.

PD 08-MAR-2000; 2000WO-US05883.

PF 12-MAR-1999; 99US-0124270.

PR (HUMA-) HUMAN GENOME SCI INC.

PA Rosen CA, Ruben SM;

PI MPI; 2000-587534/55.

DR N-PSDB; AAC98144.

PT Colon cancer associated gene sequences, referred to as colon cancer
 PT antigens, useful for the treatment, prevention, and diagnosis of colon
 PT disorders such as colon cancer -

XX Claim 11; Page 1486; 2104pp; English.

XX AAC97991 to AAC98763 encode the human colon cancer associated proteins,
 CC called human colon cancer antigens, given in AAB53387 to AAB54006. The
 CC human colon cancer antigens can have cytostatic, cardioactive, muscular;
 CC neuroprotective, immunomodulatory, gynaecological, gastrointestinal,
 CC vulnary, nephrotropic, antiinfective and antibacterial activities, and
 CC can be used in gene therapy. The colon cancer antigen polynucleotides,
 CC proteins and antibodies to the proteins are useful for the prevention,
 CC treatment and diagnosis of colon disorders, such as colon cancer. The
 CC polynucleotides may be used in diagnostics and research, such as for
 CC chromosome identification, and as hybridisation probes. The proteins
 CC may also be used to prevent diseases such as neural disorders, immune
 CC system disorders, muscular disorders, reproductive disorders,
 CC gastrointestinal disorders, wounds, renal disorders, infectious
 CC diseases, and cardiovascular disorders. AAC98764 to AAC98772 and
 CC AAB54007 represent sequences used in the exemplification of the present

CC invention.

XX Sequence 105 AA;

SO Query Match 96.4%; Score 133; DB 21; Length 105;

Best Local Similarity 96.2%; Pred. No. 2.8e-13;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTESNITMQRKPH 26

DB 45 CNDGLESVPTESNITMQRKPH 70

RESULT 5

AU08407 ID AU08407 standard; Protein; 105 AA.

XX AU08407;

DT 21-NOV-2001 (first entry)

DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-1.

XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KM angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KM psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KM cardiovascular; VEGF-C; mutant; mutein.

OS Homo sapiens.

OS Synthetic.

PH Key Location/Qualifiers

FT Domain 1..102 /note="VEGF receptor binding domain"

FT WO200162942-A2.

PN 30-AUG-2001.

PD 26-FEB-2001; 2001WO-US06113.

PF 25-FEB-2000; 2000US-0185205.

PR 18-MAY-2000; 2000US-0205331.

PA (LUDM-) LUDWIG INST CANCER RES.

PI (LICN) LICENTIA OY.

PI Altalo K, Jeltsch MM;

PI MPI; 2001-536640/59.

DR N-PSDB; AAS12844.

PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -

XX Claim 35; Page 182; 261pp; English.

XX The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-1.

SQ Sequence 105 AA;
 Query Match 96.4%; Score 133; DB 22; Length 105;
 Best Local Similarity 96.2%; Pred. No. 2.8e-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 CNDGLESVPTEESNITMQIRIKPH 26
 |||||
 DB 54 CNDGELCVPTESNITMQIRIKPH 79

RESULT 6
 AAU08411
 ID AAU08411 standard; Protein; 105 AA.
 AC AAU08411;
 DT 21-NOV-2001 (first entry)
 DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-5.
 XX Human; vascular endothelial growth factor; VEGF-A; angiogenesis;
 KM angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KM psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KM cardiovascular; VEGF-C; mutant; mutain.
 OS Homo sapiens.
 XX Synthetic.
 FH Key Location/Qualifiers
 FT Domain 1..102
 FT /note= "VEGF receptor binding domain"
 PN WO200162942-A2.
 XX 30-AUG-2001.
 PD 26-FEB-2001; 2001WO-US06113.
 PF 25-FEB-2000; 2000US-0195205.
 PR 18-MAR-2000; 2000US-0205331.
 XX (LUDWIG) LUDWIG INST CANCER RES.
 PA (LICN) LICENTIA OY.
 XX Alitalo K, Jeltsch MM;
 PI WPI; 2001-536640/59.
 DR N-PSDB; AAS12848.
 PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX Claim 36; Page 186-187; 261pp; English.
 XX The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-5.
 XX Sequence 105 AA;
 SQ

Query Match 96.4%; Score 133; DB 22; Length 105;
 Best Local Similarity 96.2%; Pred. No. 2.8e-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITMQIRIKPH 26
 |||||
 DB 54 CNDGELCVPTESNITMQIRIKPH 79

RESULT 7
 AA69417
 ID AA69417 standard; Protein; 110 AA.
 AC AA69417;
 DT 03-JUL-2000 (first entry)
 DE Amino acid sequence of vascular endothelial growth factor 110.
 XX Human; vascular endothelial growth factor; VEGF 110; angiogenic factor;
 KM blood vessel injury; vascular injury; microvascular angiopathy;
 KM thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome;
 KM toxic shock syndrome; venom; hypercoagulable state; platelet activation;
 KM platelet aggregation; thrombosis; preclampsia; sepsis; pancreatitis;
 KM intravascular coagulation; thrombotic thrombocytopenia purpura;
 KM acute renal failure; myocardial infarction; ischemic bowel disease;
 KM stroke; hypoxia; hypercardia; fibrosis; toxic alveolar injury;
 KM acute respiratory distress syndrome; pneumonia; pulmonary emboli;
 KM birth prematurity disorder; wound; allergy; hypersensitivity;
 KM autoimmune disease; organ transplant; focal glomerulosclerosis;
 KM amyloidosis.
 OS Homo sapiens.
 XX WO200013702-A2.
 XX 16-MAR-2000.
 PD 09-SEP-1999; 99WO-US20480.
 PF 09-SEP-1998; 98US-0099694.
 PR 26-MAR-1999; 99US-0126406.
 PR 27-MAR-1999; 99US-0126615.
 XX (SCIO-) SCIOS INC.
 PA Schreiner GF, Johnson RJ;
 PI WPI; 2000-256861/22.
 DR Novel methods and compositions for the prevention and treatment of
 PT microvascular angiopathies by administration of angiogenic factors such
 PT as vascular endothelial growth factor (VEGF) -
 XX Disclosure; Fig 12; 46pp; English.
 XX The present sequence represents native human vascular endothelial growth
 CC factor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins are used
 CC for the prevention or repair of injury to blood vessels or associated
 CC nonvascular tissues (served by the blood vessels) and for the prevention
 CC and repair of vascular injury associated with microvascular angiopathy,
 CC particularly thrombotic microangiopathy. The proteins methods may also
 CC be used for the prevention and treatment of kidney diseases associated
 CC with injury to, or atrophy of, the vasculature of the glomerulus and
 CC interstitium. Conditions which may be treated include haemolytic uremic
 CC syndrome, toxic shock syndrome, venom exposure, chemical exposure,
 CC hypercoagulable states, platelet activation or aggregation, thrombosis,
 CC preclampsia, thrombotic thrombocytopenia purpura, disseminated
 CC intravascular coagulation, sepsis, pancreatitis, acute renal failure,
 CC myocardial infarction, ischemic bowel disease, transient ischemic
 CC attacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung
 CC endothelium injury, acute respiratory distress syndrome, toxic alveolar
 CC injury, pneumonia, pulmonary emboli, birth prematurity disorders,

CC wounds, allergic reactions, hypersensitivity, autoimmune diseases, organ
CC transplants, focal glomerulosclerosis, and amyloidosis.

SO Sequence 110 AA;

Query Match 96.4%; Score 133; DB 21; Length 110;
Best Local Similarity 96.2%; Pred. No. 2.9e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITQIMRIKPH 26

Db 61 CNDGLESVPTEESNITQIMRIKPH 86

RESULT 8
AAV83038
ID AAV83038 standard; Protein; 110 AA.

AAV83038;

DT 04-JUL-2000 (first entry)

DE Human vascular endothelial growth factor (hVEGF110).

XX Vascular endothelial growth factor; human; angiogenesis; VEGF;
XX capillary formation; hypertension; treatment; kidney; CNS; stroke;
XX meningitis; central nervous system; tumour; infection; bone growth;
XX hypoxia; hypercapnia; fibrosis; inflammatory bowel disease;
XX diarrhoea; allografts; cardiac valve.

OS Homo sapiens.

XX WO200013703-A2.

PD 16-MAR-2000.

PF 09-SEP-1999; 99WO-US20481.

PR 09-SEP-1998; 98US-0099694.

PR 26-MAR-1999; 99US-0126406.

PR 27-MAR-1999; 99US-0126615.

PA (SCIO-) SCIOS INC.

PI Schreiner GF, Johnson RJ;

DR WPI, 2000-256662/22.

Novel methods for treating hypertension by administering a factor which
increases angiogenesis and/or vascular permeability -
Disclosure; Figure 11; 51pp; English.

XX Administering vascular endothelial growth factor (VEGF) can be used
CC for treating hypertension (especially salt-dependent hypertension)
CC Administration of VEGF promotes angiogenesis and/or vascular or
CC capillary permeability. The method is also useful in treating
CC disorders related to abnormal transport of solutes across endothelial
CC cells. Such disorders include the treatment or prevention of kidney
CC disease associated with impaired filtration or excretion of solutes;
CC the treatment or prevention of diseases of the central nervous system
CC associated with alterations in cerebrospinal fluid, e.g. stroke,
CC meningitis, tumour, infections, and bone growth disorders; treatment
CC or prevention of hypoxia or hypercapnia or fibrosis arising from
CC accumulation of fluid secretions in the lungs, e.g. acute respiratory
CC distress syndrome, toxic alveolar injury, pneumonia, infections,
CC surgical intervention, cystic fibrosis; treatment or prevention of
CC pulmonary dysfunction arising from injury to the pulmonary
CC endothelium, including disorders arising from premature birth, and
CC pulmonary hypertension; treatment or prevention of disease arising
CC from disordered transport of fluid and solutes across the intestinal
CC epithelium, e.g. inflammatory bowel disease, diarrhoea; treatment or
CC prevention of ascites accumulation in the peritoneum; enhancement of

CC efficacy of solute flux; preservation or enhancement of function of
CC organ allografts; and treatment of cardiac valve disease. This
CC sequence is the native human vascular endothelial growth
CC factor hVEGF110. The activity of VEGF is mediated by interaction
CC with specific receptors on target tissues, most notably the vascular
CC endothelium. VEGF exists as five different length monomer chains due
CC to alternative splicing of the VEGF RNA transcript.

SO Sequence 110 AA;

Query Match 96.4%; Score 133; DB 21; Length 110;
Best Local Similarity 96.2%; Pred. No. 2.9e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITQIMRIKPH 26

Db 61 CNDGLESVPTEESNITQIMRIKPH 86

RESULT 9
AAG79276
ID AAG79276 standard; peptide; 110 AA.

AC AAG79276;

DT 03-JAN-2002 (first entry)

DE Primary sequence of vascular endothelial growth factor (VEGF).

XX Kinase domain receptor; KDR; vascular endothelial growth factor; VEGF;
XX VEGF antibody; angiogenesis; cancer; diabetic retinopathy; psoriasis;
XX hemangioendothelioma; Kaposi's sarcoma.

OS Unidentified.

XX WO200172829-A2.

PD 04-OCT-2001.

PF 29-MAR-2001; 2001WO-1B00577.

PR 31-MAR-2000; 2000US-193396P.

PA (INSP) INST PASTEUR.

PA (CNRS) CNRS CENT NAT RECH SCI.

PA (UTPA-) UNIV PARIS 13 NORD.

PI Tournaire R, Demangel C, Derbin C, Perret G, Mazie J, Plouet J;

PI Vasey R;

DR WPI, 2001-616471/71.

Novel peptides inhibiting binding of vascular endothelial growth factor
(VEGF) to kinase domain receptor, or inhibiting binding of anti-VEGF
antibody to VEGF, useful for treating diabetic retinopathy and
psoriasis -
Example; Page 21; 55pp; English.

XX The present sequence represents vascular endothelial growth factor
CC (VEGF). The specification describes peptides which bind to an
CC anti-VEGF antibody or which bind to a kinase domain receptor (KDR).
CC The peptides inhibit the binding of VEGF to KDR, and inhibit binding
CC of anti-VEGF antibody to VEGF. The peptides are useful for inhibiting
CC angiogenesis and for treating diseases including cancer, diabetic
CC retinopathy, psoriasis, hemangioendothelioma, and Kaposi's sarcoma.

SO Sequence 110 AA;

Query Match 96.4%; Score 133; DB 22; Length 110;
Best Local Similarity 96.2%; Pred. No. 2.9e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Oy 1 CNDGLESVPTESNITWQIRKPH 26
 |||||
 Db 61 CNDGLECVPTESNITWQIRKPH 86

RESULT 10
 AAB50436
 ID AAB50436 standard; Protein; 110 AA.
 XX
 AC AAB50436;
 XX
 DT 13-MAR-2001 (first entry)
 XX
 DE Human VEGF110.
 XX

Human, VEGF; vascular endothelial growth factor; VEGF121; VEGF145;
 KM cardiact; cerebroprotective; hypotensive; nephroprotective; antidiabetic;
 KM dermatological; immunosuppressive; antiinflammatory; cytostatic;
 KM vasotropic; antibacterial; angiogenesis; vascular remodeling;
 KM vascular disease; kidney disease; diabetes; systemic lupus erythematosus;
 KM meningitis; tumour; infection; lung disease inflammatory bowel disease-
 XX

OS Homo sapiens.
 XX
 PN WO200071713-A1.
 XX
 PD 30-NOV-2000.
 XX
 PF 18-MAY-2000; 2000WO-US13536.
 XX
 PR 20-MAY-1999; 99US-0135312.
 XX
 PA (SCIO-) SCIOS INC.
 XX
 PI Politt NS, Abraham JA;
 XX
 DR WPI; 2001-025162/03.
 XX

Enhancing biological activity of vascular endothelial growth factor by
 PT replacing a Cys residue, for producing variant useful for treating
 PT hypertension, stroke, diabetes, lupus, glomerulonephritis, meningitis,
 PT tumor, pneumonia, infections -
 XX
 PS Disclosure; Fig 12; 62pp; English.
 XX

The present sequence is given in a specification relating to a method for
 CC enhancing the biological activity of a vascular endothelial growth factor
 CC (VEGF) originally having a cysteine residue at a position 116 of the 121
 CC amino acid native mature human VEGF. The method comprises eliminating the
 CC cysteine residue to produce a VEGF variant. The variant is useful for
 CC inducing angiogenesis or vascular remodelling, for prevention or repair
 CC of injury to blood vessels, where injury is associated with haemolytic
 CC uremic syndrome (HUS) or microvascular angiodopathy such as thrombotic
 CC microangiopathy (TMA). The VEGF variant is also useful for treatment of
 CC essential hypertension in a patient. The variant is useful for treating
 CC coronary artery disease and/or peripheral arterial disease, to foster
 CC myocardial blood vessel growth and to improve blood flow to the heart. It
 CC is useful for the treatment and prevention of kidney diseases associated
 CC with injury to, or atrophy of, the vasculature of the glomerulus and
 CC interstitial and for the treatment and prevention of acute renal failure,
 CC myocardial infarction, ischaemic bowel disease, transient ischaemic
 CC attack, stroke, hypoxia, hypercapnia, focal glomerulosclerosis,
 CC amyloidosis, glomerulonephritis, diabetes, systemic lupus erythematosus
 CC or chronic hypoxia/atrophy. It is also useful in the preservation or
 CC enhancement of function of organ allografts and xenografts, and for
 CC treating disorders related to abnormal transport of solutes across
 CC endothelial cells such as meningitis, tumour, infections, disorders of
 CC bone growth, acute respiratory distress syndrome, toxic alveolar injury,
 CC pneumonia, cystic fibrosis, inflammatory bowel disease, infectious
 CC diarrhoea or cardiac valve disease.
 CC
 XX Sequence 110 AA;
 SQ

Query Match 96.4%; Score 133; DB 22; Length 110;
 Best Local Similarity 96.2%; Pred. No. 2,98-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Oy 1 CNDGLESVPTESNITWQIRKPH 26
 |||||
 Db 61 CNDGLECVPTESNITWQIRKPH 86

RESULT 11
 ABB76304
 ID ABB76304 standard; Protein; 110 AA.
 XX
 AC ABB76304;
 XX
 DT 12-AUG-2002 (first entry)
 XX
 DE Human vascular endothelial growth factor 110.
 XX

Vascular endothelial growth factor; VEGF; hVEGF110; human;
 KM hypertension; hypotensive; nephroprotective; cerebroprotective;
 KM antibacterial; cytostatic; antialcoholic; virucide; vasotropic;
 KM antiarthritic; immunosuppressive; cardiac; antiinflammatory;
 KM angiogenic factor.
 XX
 OS Homo sapiens.
 XX
 PN US6352975-B1.
 XX
 PD 05-MAR-2002.
 XX
 PF 09-SEP-1999; 99US-0392932.
 XX
 PR 09-SEP-1998; 98US-099694P.
 XX
 PR 26-MAR-1999; 99US-126406P.
 XX
 PR 27-MAR-1999; 99US-126615P.
 XX

(SCIO-) SCIOS INC.
 XX
 PI Schreiner GF, Johnson RJ;
 XX
 DR WPI; 2002-412951/44.
 XX
 XX

New method, useful in treatment of salt-sensitive hypertension,
 PT comprises administration of a vascular endothelial growth factor to a
 PT patient -
 XX
 PS Disclosure; Fig 11; 30pp; English.
 XX

The present sequence is the protein sequence of human vascular
 CC endothelial growth factor 110 (hVEGF110). The present invention
 CC concerns methods for the treatment of salt-sensitive hypertension
 CC by administering a VEGF in an amount effective to reduce the blood
 CC pressure of a salt-sensitive hypertension patient to a normal
 CC range. The VEGF is preferably hVEGF121 (see ABB76299) or a VEGF
 CC that has had its heparin-binding domain modified to render it
 CC incapable of binding heparin, e.g. by amino acid alteration.
 CC VEGF110 is not one of the preferred VEGF molecules. The method can
 CC also be used to treat disorders relating to abnormal transport of
 CC solutes across endothelial cells, including treatment or prevention
 CC of kidney diseases associated with impaired filtration or excretion
 CC of solutes, central nervous system diseases associated with
 CC alterations in cerebrospinal fluid synthesis, composition or
 CC circulation including stroke, meningitis, tumour, infections, and
 CC disorders of bone growth, hypoxia or hypercapnia or fibrosis
 CC arising from accumulation of fluid secretions in lungs or
 CC impediments to their removal, including acute respiratory distress
 CC syndrome, toxic alveolar injury as occurs in smoke inhalation,
 CC pneumonia, including viral and bacterial infections, surgical
 CC interventions, cystic fibrosis, and other innervated or acquired
 CC disease of the lung associated with fluid accumulation in the
 CC pulmonary air space, pulmonary endothelium injury, disordered
 CC transport of fluid and solutes across the intestinal epithelium,
 CC

CC including inflammatory bowel disease, infections, diarrhea,
 CC ascites accumulation in the peritoneum as occurs in the failure of
 CC heart, liver and kidney, preservation and enhancement of function
 CC of organ allografts, and cardiac valve disease.

CC Sequence 110 AA;

Query Match 96.4%; Score 133; DB 23; Length 110;
 Best Local Similarity 96.2%; Pred. No. 2.9e-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSEVPTEBSNITWQIMRIKPH 26
 DB 61 CNDEGLECVPTESNITWQIMRIKPH 86

RESULT 12

AA11385 standard; Protein; 121 AA.

AA11385;

25-MAR-2003 (updated)

08-MAY-1991 (first entry)

Human vascular endothelial cell growth factor 121.

Bovine vascular endothelial cell growth factor; angiogenesis;

wound healing; hVEGF; PDGF.

Bos taurus.

MO9102058-A.

21-FEB-1991.

27-JUL-1990; 90WO-US04227.

14-DEC-1989; 89US-0450883.

27-JUL-1989; 89US-0387545.

(CALD) CALIFORNIA BIOTECHNOLOGY INC.

Tischer ER, Abraham, Fiddes JC, Mitchell RL;

WPI; 1991-073534/10.

N-PSDB; AAQ11099.

DNA encoding vascular endothelial cell growth factor - used for
 PT producing the factor for angiogenesis and re-endothelialisation
 PT in wound healing

Disclousure; Fig 7(1-2); 94pp; English.

The two forms of VEGF (AAQ10797 and AAQ10917) which arise through
 CC different message splicing, have different properties. In partic.
 CC hVEGF121 does not bind to heparin leaving more of the protein free to
 CC bind to VEGF receptor and increase the half-life and distribution of
 CC the protein in circulation, whereas hVEGF165 binds heparin strongly.
 CC The product can be used for angiogenesis and re-endothelialisation
 CC of inner vascular surfaces in wound healing, e.g. treatment of full-
 CC thickness wounds such as dermal ulcers, venous ulcers and diabetic
 CC ulcers, burns, in surgery, in balloon angioplasty and for the in
 CC vitro culturing of endothelial cells. Hybrid growth factors of PDGF
 CC and VEGF can exhibit a mitogenic profile between each factor and
 CC e.g. preventing the growth of tumours.

CC VEGF analogues in which Cys residues are substd. are more stable.

CC See also AAQ10791-93; AAQ10796-97; AAQ10806-08 and AAQ11099.

CC (Updated on 25-MAR-2003 to correct PA field.)

XX Sequence 121 AA;

Query Match 96.4%; Score 133; DB 12; Length 121;
 Best Local Similarity 96.2%; Pred. No. 3.3e-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSEVPTEBSNITWQIMRIKPH 26
 DB 61 CNDEGLECVPTESNITWQIMRIKPH 86

RESULT 13

AA42607 standard; Protein; 121 AA.

AA42607;

25-MAR-2003 (updated)

28-OCT-1993 (first entry)

Human VEGF-121.

Angiogenesis; wound healing; mitogen; vascular endothelial cells;

Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121.

Homo sapiens.

Key Location/Qualifiers

Misc-difference 7 /note= "inserted amino acid relative to bVEGF"

Misc-difference 115 /note= "Lys 115 of hVEGF-121 is replaced by 44

amino acids encoded by an alternatively spliced exon in hVEGF-165 (see AAR38921)"

US5219739-A.

15-JUN-1993.

27-JUL-1990; 90US-0559041.

27-JUL-1989; 89US-0387545.

14-DEC-1989; 89US-0450883.

27-JUL-1990; 90US-0559041.

(SCIO-) SCIOS NOVA INC.

Abraham JA, Fiddes JC, Mitchell RL, Tischer EG;

WPI; 1993-205302/25.

N-PSDB; AAQ49601.

Isolated DNA sequences, expression vectors and transformant cells
 PT - used for large scale prodn. of vascular endothelial cell growth
 PT factor, for treating wounds in which neo-vascularisation is
 PT required

Claim 3; Fig 7; 40pp; English.

The sequence of AAQ44260 contains an open reading frame corresponding
 CC to the 165 amino acid human vascular endothelial cell growth
 CC factor (hVEGF-165, see AAR38921). Alternative splicing of the
 CC sequence gives a shorter coding sequence which encodes the 121
 CC amino acid hVEGF (see AAR42607). The full-length coding sequences can
 CC be generated using PCR with human foetal vascular smooth muscle
 CC poly-A+ RNA as template.

CC (Updated on 25-MAR-2003 to correct PF field.)

XX Sequence 121 AA;

Query Match 96.4%; Score 133; DB 14; Length 121;
 Best Local Similarity 96.2%; Pred. No. 3.3e-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSEVPTEBSNITWQIMRIKPH 26

DB 61 CNDEGLECVPTESNITWQIMRIKPH 86

RESULT 14

AAW09091 AAW09091 standard; protein; 121 AA.

AC AAW09091;

DT 05-MAR-1997 (first entry)

DE Human VEGF/VPF121 for treatment of vascularisation diseases.

XX VEGF; VPF; vascular endothelial cell growth factor;

KM vascular permeability factor; vaccine; vascularisation; cancer;

KM glioma; eye tumour; trachoma; psoriasis; granuloma;

XX hypertrophic scar; post-crystalline fibrosis;

XX senile disk muscular degeneration.

OS Homo sapiens.

PN JP08225462-A.

XX 03-SEP-1996.

PD 30-NOV-1995; 95JP-0312562.

XX 01-DEC-1994; 94JP-0298718.

PR (TOAG) TOA GOSEI CHEM IND LTD.

XX WPI; 1996-450932/45.

DR Vaccine for treatment of vascularisation diseases, e.g. cancer -

PT comprises peptide derived from vascular endothelial cell growth

PT factor

XX Example; Page 6-7; 7pp; Japanese.

XX A vaccine for treatment and prevention of diseases caused by

CC vascularisation comprising a cell growth factor or its fragments

CC which stimulate vascular cell proliferation is provided. The

CC vaccine can be used for treating cancers, glioma, eye tumours,

CC trachoma, psoriasis, granuloma, hypertrophic scars,

CC post-crystalline fibrosis and senile disk muscular degeneration.

CC A preferred protein for use in the vaccine is human VEGF/VPF121,

CC i.e. the present sequence.

XX Sequence 121 AA;

SQ

Query Match 96.4%; Score 133; DB 17; Length 121;

Best Local Similarity 96.2%; Pred. No. 3.3e-13;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDEGLESVPTESNITWQIMRIKPH 26

DB 61 CNDEGLECVPTESNITWQIMRIKPH 86

RESULT 15

AAW03677

ID AAW03677 standard; protein; 121 AA.

XX AAW03677;

AC 31-DEC-1996 (first entry)

XX Vascular permeability factor.

XX Vascular permeability factor; growth factor; overlapping peptide;

KM monoclonal antibody; hybridoma; cancer.

XX

OS Synthetic.

XX JP08169898-A.

XX 02-JUL-1996.

PD 06-JUN-1995; 95JP-0162841.

XX 18-OCT-1994; 94JP-0278387.

PR 10-JUN-1994; 94JP-0152805.

XX (TOAG) TOA GOSEI CHEM IND LTD.

DR WPI; 1996-358508/36.

XX New peptide, useful as antigen for preparing vascular permeability

PT factor monoclonal antibody - is used in treatment agent for cancers

XX and as biochemical reagents

PS Disclosure; Page 10; 13pp; Japanese.

XX This is the amino acid sequence of the vascular permeability factor

CC (VPF), a member of the growth factor family. Several VPF types are

CC known having 121, 165, 189 or 206 amino acids. This sequence was used

CC to generate a series of overlapping peptides having 10 residues which

CC were used to raise antibodies against the VPF peptide. The two peptides

CC AAW03678-9 generated the greatest antibody signal against the VPF

CC protein. These clones were used to manufacture hybridomas producing

CC monoclonal antibodies which are useful for diagnosis and treatment of

XX cancers and other diseases.

XX Sequence 121 AA;

SQ

Query Match 96.4%; Score 133; DB 17; Length 121;

Best Local Similarity 96.2%; Pred. No. 3.3e-13;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDEGLESVPTESNITWQIMRIKPH 26

DB 61 CNDEGLECVPTESNITWQIMRIKPH 86

Search completed: January 30, 2004, 11:40:08

Job time : 36.725 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM protein - protein search, using SW model

Run on: January 30, 2004, 11:35:33 ; Search time 11.0667 seconds
(without alignments)
99.405 Million cell updates/sec

Title: US-09-266-543-7

Perfect score: 138

Sequence: 1 CNDEGLSEVPTEESNTWQIRKPH 26

Scoring table: BLOSUM62

Gapop 10.0, Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents, AA:*
1: /cgn2_6/ptodata/1/1aa/5A.COMB.pep:*
2: /cgn2_6/ptodata/1/1aa/5B.COMB.pep:*
3: /cgn2_6/ptodata/1/1aa/6A.COMB.pep:*
4: /cgn2_6/ptodata/1/1aa/6B.COMB.pep:*
5: /cgn2_6/ptodata/1/1aa/PTUS.COMB.pep:*
6: /cgn2_6/ptodata/1/1aa/backfile1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	133	96.4	109	3	US-08-691-794-3
2	133	96.4	110	4	US-09-392-932-11
3	133	96.4	110	4	US-09-574-708A-11
4	133	96.4	110	4	US-09-822-270-17
5	133	96.4	121	6	5194596-19
6	133	96.4	121	6	5219739-20
7	133	96.4	136	4	US-09-037-983C-15
8	133	96.4	137	4	US-09-037-983C-17
9	133	96.4	138	4	US-09-037-983C-16
10	133	96.4	141	4	US-09-519-476-2
11	133	96.4	145	3	US-08-784-551C-2
12	133	96.4	145	4	US-09-392-932-2
13	133	96.4	145	4	US-09-574-708A-4
14	133	96.4	145	4	US-09-037-983C-2
15	133	96.4	147	3	US-08-807-992B-1
16	133	96.4	147	4	US-09-392-932-1
17	133	96.4	147	4	US-08-706-054A-4
18	133	96.4	147	4	US-09-574-708A-2
19	133	96.4	147	4	US-09-313-299-4
20	133	96.4	164	4	US-09-244-583-24
21	133	96.4	165	4	US-08-882-816-3
22	133	96.4	165	4	US-08-802-052B-3
23	133	96.4	165	6	5194596-18
24	133	96.4	165	6	5219739-19
25	133	96.4	188	4	US-09-244-583-28
26	133	96.4	191	3	US-08-567-200A-2
27	133	96.4	191	3	US-08-807-992B-2

28	133	96.4	191	3	US-08-691-794-2	Sequence 2, Appl1
29	133	96.4	191	3	US-08-795-430-56	Sequence 56, Appl1
30	133	96.4	191	3	US-09-392-932-3	Sequence 3, Appl1
31	133	96.4	191	4	US-09-355-760-56	Sequence 56, Appl1
32	133	96.4	191	4	US-08-882-816-2	Sequence 2, Appl1
33	133	96.4	191	4	US-09-574-708A-6	Sequence 6, Appl1
34	133	96.4	191	4	US-08-802-052B-2	Sequence 2, Appl1
35	133	96.4	191	6	5332671-4	Patent No. 5332671
36	133	96.4	208	4	US-09-574-708A-8	Sequence 8, Appl1
37	133	96.4	213	4	US-09-574-708A-8	Sequence 8, Appl1
38	133	96.4	214	6	5240848-11	Patent No. 5240848
39	133	96.4	215	3	US-08-807-992B-3	Sequence 3, Appl1
40	133	96.4	215	3	US-08-586-039B-49	Sequence 49, Appl1
41	133	96.4	215	4	US-09-699-769-49	Sequence 49, Appl1
42	133	96.4	215	6	5240848-7	Patent No. 5240848
43	133	96.4	231	5	PCT-US96-09001-10	Sequence 10, Appl1
44	133	96.4	232	2	US-08-999-811-7	Sequence 7, Appl1
45	133	96.4	232	2	US-08-824-936-9	Sequence 9, Appl1

ALIGNMENTS

RESULT 1
US-08-691-794-3
; Sequence 3, Application US/08691794
; Patent No. 6057428

GENERAL INFORMATION:
APPLICANT: Keyt, Bruce A.
APPLICANT: Nguyen, Francis H.
APPLICANT: Ferrara, Napoleone
APPLICANT: Cunningham, Brian C.
APPLICANT: Wells, James A.
TITLE OF INVENTION: Variants of Vascular Endothelial Cell
TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
NUMBER OF INVENTION: Production
NUMBER OF SEQUENCES: 45
CORRESPONDENCE ADDRESS:
ADDRESS: Flehr, Hohbach, Teet, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30

CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299

INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 109 amino acids
TYPE: amino acid
STRANDEDNESS: unknown

TOPOLOGY: unknown
MOLECULE TYPE: protein
US-08-691-794-3

Query Match 96.4%; Score 133; DB 3; Length 109;
Best Local Similarity 96.2%; Pred. No. 9.8e-15;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
DB 61 CNDGLECVPTESNITWQIMRIKPH 86

RESULT 2

US-09-392-932-11
Sequence 11, Application US/09392932

Patent No. 6352975
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-392-932-11

Query Match 96.4%; Score 133; DB 4; Length 110;
Best Local Similarity 96.2%; Pred. No. 9.9e-15;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
DB 61 CNDGLECVPTESNITWQIMRIKPH 86

RESULT 3

US-09-574-708A-11
Sequence 11, Application US/09574708A

Patent No. 6475796
GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
FILE REFERENCE: SCIOS004A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo sapiens
US-09-574-708A-11

Query Match 96.4%; Score 133; DB 4; Length 110;
Best Local Similarity 96.2%; Pred. No. 9.9e-15;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
DB 61 CNDGLECVPTESNITWQIMRIKPH 86

RESULT 4
US-09-822-270-17
Sequence 17, Application US/09822270

Patent No. 6559126
GENERAL INFORMATION:
APPLICANT: TOURNAIRE, ROSELYNE
APPLICANT: DEMANGEL, CAROLINE
APPLICANT: DERBIN, CLAUDE
APPLICANT: PERRET, GERARD
APPLICANT: MAZIE, JEAN-CLAUDE
APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MED-2A
FILE REFERENCE: 205060U0
CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 110
TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-822-270-17

Query Match 96.4%; Score 133; DB 4; Length 110;
Best Local Similarity 96.2%; Pred. No. 9.9e-15;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
DB 61 CNDGLECVPTESNITWQIMRIKPH 86

RESULT 5

Patent No. 5194596
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR
NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 19
LENGTH: 121
5194596-19

Query Match 96.4%; Score 133; DB 6; Length 121;
Best Local Similarity 96.2%; Pred. No. 1.1e-14;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
DB 61 CNDGLECVPTESNITWQIMRIKPH 86

RESULT 6

Patent No. 5219739
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
JOHN C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: DNA SEQUENCES ENCODING BVESG120 AND

```
;HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
;VAASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVHGF120 AND HVEGF121
; NUMBER OF SEQUENCES: 40
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/559,041
; FILING DATE: 27-JUL-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 450,683
; FILING DATE: 14-DEC-1989
; APPLICATION NUMBER: 387,545
; FILING DATE: 27-JUL-1989
; SEQ ID NO:20:
; LENGTH: 121
5219739-20

Query Match          96.4%; Score 133; DB 6; Length 121;
Best Local Similarity 96.2%; Pred. No. 1.1e-14;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITWQIMRIKPH 26
Db 61 CNDGLECEVPTEESNITWQIMRIKPH 86

RESULT 7
US-09-037-983C-15
; Sequence 15, Application US/09037983C
; Patent No. 6583276
; GENERAL INFORMATION:
; APPLICANT: Newfield, Gera
; APPLICANT: Keshet, Eli
; APPLICANT: Vlodavsky, Israel
; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
; FILE REFERENCE: 000274-00009
; CURRENT APPLICATION NUMBER: US/09/037,983C
; CURRENT FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/025,537
; PRIOR FILING DATE: 1996-09-06
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 15
; LENGTH: 136
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-15

Query Match          96.4%; Score 133; DB 4; Length 136;
Best Local Similarity 96.2%; Pred. No. 1.3e-14;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITWQIMRIKPH 26
Db 61 CNDGLECEVPTEESNITWQIMRIKPH 86

RESULT 8
US-09-037-983C-17
; Sequence 17, Application US/09037983C
; Patent No. 6583276
; GENERAL INFORMATION:
; APPLICANT: Newfield, Gera
; APPLICANT: Keshet, Eli
; APPLICANT: Vlodavsky, Israel
; APPLICANT: Poltorak, Zoya
; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
; FILE REFERENCE: 000274-00009
; CURRENT APPLICATION NUMBER: US/09/037,983C
; CURRENT FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/025,537
; PRIOR FILING DATE: 1996-09-06
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
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; SEQ ID NO 17
; LENGTH: 137
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-17

Query Match          96.4%; Score 133; DB 4; Length 137;
Best Local Similarity 96.2%; Pred. No. 1.3e-14;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITWQIMRIKPH 26
Db 61 CNDGLECEVPTEESNITWQIMRIKPH 86

RESULT 9
US-09-037-983C-16
; Sequence 16, Application US/09037983C
; Patent No. 6583276
; GENERAL INFORMATION:
; APPLICANT: Newfield, Gera
; APPLICANT: Keshet, Eli
; APPLICANT: Vlodavsky, Israel
; APPLICANT: Poltorak, Zoya
; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
; FILE REFERENCE: 000274-00009
; CURRENT APPLICATION NUMBER: US/09/037,983C
; CURRENT FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/025,537
; PRIOR FILING DATE: 1996-09-06
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 16
; LENGTH: 138
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-16

Query Match          96.4%; Score 133; DB 4; Length 138;
Best Local Similarity 96.2%; Pred. No. 1.3e-14;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITWQIMRIKPH 26
Db 61 CNDGLECEVPTEESNITWQIMRIKPH 86

RESULT 10
US-09-519-476-2
; Sequence 2, Application US/09519476
; Patent No. 6506884
; GENERAL INFORMATION:
; APPLICANT: MINTZ, Liat et al.
; TITLE OF INVENTION: NOVEL NUCLEIC ACID AND AMINO ACID SEQUENCES
; FILE REFERENCE: 2786-0149P
; CURRENT APPLICATION NUMBER: US/09/519,476
; CURRENT FILING DATE: 2000-03-08
; PRIOR APPLICATION NUMBER: IL128852
; PRIOR FILING DATE: 1999-03-05
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 2
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-519-476-2

Query Match          96.4%; Score 133; DB 4; Length 141;
Best Local Similarity 96.2%; Pred. No. 1.4e-14;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITWQIMRIKPH 26
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Db 87 CNDGELCVPTESNITMOIMRIKPH 112

RESULT 11

US-08-784-551C-2
Sequence 2, Application US/08784551C

Patent No. 6013780

GENERAL INFORMATION:

APPLICANT: Gera Neufeld

APPLICANT: Eli Keshet

APPLICANT: Israel Vlodavsky

APPLICANT: Zoya Poltorak

TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF

TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE

NUMBER OF SEQUENCES: 9

CORRESPONDENCE ADDRESS:

ADDRESSEE: Blank, Rome, Comisky & McCauley LLP

STREET: 900 17th Street, N.W.

CITY: Washington, D.C.

STATE: N/A

COUNTRY: U.S.A.

ZIP: 20006

COMPUTER READABLE FORM:

MEDIUM TYPE: 3.5" Diskette, 1.44 Mb

MEDIUM TYPE: Storage

COMPUTER: IBM Compatible

OPERATING SYSTEM: IBM P.C. DOS 5.0

SOFTWARE: FASTSEQ for Windows 2.0

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/784,551C

FILING DATE: January 21, 1997

CLASSIFICATION: 514

PRIOR APPLICATION DATA:

APPLICATION NUMBER:

FILING DATE:

ATTORNEY/AGENT INFORMATION:

NAME: Cohen, Herbert

REGISTRATION NUMBER: 25,109

REFERENCE/DOCKET NUMBER: 0274.005/P003

TELECOMMUNICATION INFORMATION:

TELEPHONE: (202) 463-7700

TELEFAX: (202) 463-6915

TELEX:

INFORMATION FOR SEQ ID NO: 2:

SEQUENCE CHARACTERISTICS:

LENGTH: 145 amino acids

TYPE: amino acid

STRANDEDNESS: single

TOPOLOGY: linear

US-08-784-551C-2

Query Match

Best Local Similarity 96.4%; Score 133; DB 3; Length 145;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGELSVPTESNITMOIMRIKPH 26

Db 61 CNDGELCVPTESNITMOIMRIKPH 86

RESULT 12

US-09-392-932-2

Sequence 2, Application US/09392932

Patent No. 6352975

GENERAL INFORMATION:

APPLICANT: Schreiner, George F.

APPLICANT: Johnson, Richard J.

TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND

TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN

FILE REFERENCE: SCIOS.002A

CURRENT APPLICATION NUMBER: US/09/392,932

CURRENT FILING DATE: 1999-09-09

US-09-392-932-2

Query Match

Best Local Similarity 96.2%; Score 133; DB 3; Length 145;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGELSVPTESNITMOIMRIKPH 26

Db 61 CNDGELCVPTESNITMOIMRIKPH 86

RESULT 13

US-09-574-708A-4

Sequence 4, Application US/09574708A

Patent No. 6475796

GENERAL INFORMATION:

APPLICANT: N. Stephen Pollitt

APPLICANT: Judith A. Abraham

TITLE OF INVENTION: Vascular endothelial growth factor

TITLE OF INVENTION: variants

FILE REFERENCE: SCIOS004A

CURRENT APPLICATION NUMBER: US/09/574,708A

CURRENT FILING DATE: 2000-05-18

PRIOR APPLICATION NUMBER: US 60/135,112

PRIOR FILING DATE: 1999-05-20

NUMBER OF SEQ ID NOS: 11

SOFTWARE: FASTSEQ for Windows Version 4.0

SEQ ID NO 4

LENGTH: 145

TYPE: PRT

ORGANISM: Homo sapiens

US-09-574-708A-4

Query Match

Best Local Similarity 96.4%; Score 133; DB 4; Length 145;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGELSVPTESNITMOIMRIKPH 26

Db 61 CNDGELCVPTESNITMOIMRIKPH 86

RESULT 14

US-09-037-983C-2

Sequence 2, Application US/09037983C

Patent No. 6583276

GENERAL INFORMATION:

APPLICANT: Neufeld, Gera

APPLICANT: Keshet, Eli

APPLICANT: Vlodavsky, Israel

APPLICANT: Poltorak, Zoya

TITLE OF INVENTION: Angiogenic Factor and Use thereof in Treating Cardiovascular Dise

FILE REFERENCE: 000274-00009

CURRENT APPLICATION NUMBER: US/09/037,983C

CURRENT FILING DATE: 1998-03-11

PRIOR APPLICATION NUMBER: 60/025,537

PRIOR FILING DATE: 1996-09-06

NUMBER OF SEQ ID NOS: 17

SOFTWARE: PatentIn version 3.1

SEQ ID NO 2

LENGTH: 145

TYPE: PRT

ORGANISM: Homo sapiens

US-09-037-983C-2

Query Match

Best Local Similarity 96.2%; Score 133; DB 4; Length 145;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGELSVPTESNITMOIMRIKPH 26

Db 61 CNDGELCVPTESNITMOIMRIKPH 86

Query Match 96.4%; Score 133; DB 4; Length 145;
 Best Local Similarity 96.2%; Pred. No. 1.4e-14;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEBSNITWQIMRIKPH 26
 Db 61 CNDGLECCVPTESNITWQIMRIKPH 86

RESULT 15

US-08-807-992B-1
 ; Sequence 1, Application US/08807992B
 ; Patent No. 6022541
 ; GENERAL INFORMATION:
 ; APPLICANT: Senger, Donald R
 ; TITLE OF INVENTION: Immunological preparation for concurrent
 ; TITLE OF INVENTION: specific binding to spatially exposed regions of vascular
 ; TITLE OF INVENTION: permeability factor bound in-vivo to a tumor associated blood
 ; NUMBER OF SEQUENCES: 31
 ; CORRESPONDENCE ADDRESSES:
 ; ADDRESSEE: David Prashker, Esq.
 ; STREET: P.O. Box 5387
 ; CITY: Magnolia
 ; STATE: Massachusetts
 ; COUNTRY: USA
 ; ZIP: 01930
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Diskette, 3.50 inch, 1.40 MB storage
 ; COMPUTER: IBM PS/1
 ; OPERATING SYSTEM: MS DOS
 ; SOFTWARE: WordPerfect version 5.1
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/807,992B
 ; FILING DATE: March 3, 1997
 ; CLASSIFICATION: 424
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: David Prashker, Esq.
 ; REGISTRATION NUMBER: 29,693
 ; REFERENCE/DOCKET NUMBER: BIS-033
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (978) 525-3794
 ; INFORMATION FOR SEQ ID NO: 1:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 147 amino acids
 ; TYPE: amino acid
 ; STRANDEDNESS: single
 ; TOPOLOGY: linear
 ; US-08-807-992B-1

Query Match 96.4%; Score 133; DB 3; Length 147;
 Best Local Similarity 96.2%; Pred. No. 1.4e-14;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEBSNITWQIMRIKPH 26
 Db 87 CNDGLECCVPTESNITWQIMRIKPH 112

Search completed: January 30, 2004, 11:47:52
 Job time : 11.0667 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: January 30, 2004, 11:44:49 ; Search time 25.7333 Seconds
(without alignments)
209.978 Million cell updates/sec

Title: US-09-266-543-7
Perfect score: 138
Sequence: 1 CNDGLSEVPTESNITQIMRIKPH 26

Scoring table:
BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 789580 seqs, 207824079 residues

Total number of hits satisfying chosen parameters: 789580

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

Published Applications AA:*

- 1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
- 2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
- 3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
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- 5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*
- 6: /cgn2_6/ptodata/2/pubpaa/PCTUS_PUBCOMB.pep:*
- 7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
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- 10: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*
- 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*
- 12: /cgn2_6/ptodata/2/pubpaa/US09C_NEW_PUB.pep:*
- 13: /cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep:*
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- 15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*
- 16: /cgn2_6/ptodata/2/pubpaa/US10C_NEW_PUB.pep:*
- 17: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
- 18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	133	96.4	47	US-10-139-876-13	Sequence 13, Appl
2	133	96.4	79	US-10-086-623-14	Sequence 14, Appl
3	133	96.4	79	US-10-260-539-14	Sequence 14, Appl
4	133	96.4	101	US-09-832-355A-2	Sequence 2, Appl
5	133	96.4	105	US-09-925-299-927	Sequence 927, Appl
6	133	96.4	105	US-09-795-006A-51	Sequence 51, Appl
7	133	96.4	105	US-09-795-006A-59	Sequence 59, Appl
8	133	96.4	105	US-09-925-299-927	Sequence 927, Appl
9	133	96.4	110	US-09-822-270-17	Sequence 17, Appl
10	133	96.4	110	US-10-139-876-13	Sequence 13, Appl
11	133	96.4	110	US-10-139-876-13	Sequence 13, Appl
12	133	96.4	110	US-10-139-876-13	Sequence 13, Appl
13	133	96.4	110	US-10-139-876-13	Sequence 13, Appl
14	133	96.4	110	US-10-139-876-13	Sequence 13, Appl
15	133	96.4	110	US-10-139-876-13	Sequence 13, Appl

16	133	96.4	110	US-10-268-447-11	Sequence 11, Appl
17	133	96.4	121	US-09-832-355A-1	Sequence 1, Appl
18	133	96.4	126	US-09-795-006A-43	Sequence 43, Appl
19	133	96.4	127	US-09-795-006A-47	Sequence 47, Appl
20	133	96.4	127	US-09-795-006A-83	Sequence 83, Appl
21	133	96.4	127	US-09-795-006A-91	Sequence 91, Appl
22	133	96.4	141	US-10-298-794-2	Sequence 2, Appl
23	133	96.4	141	US-10-319-828-2	Sequence 2, Appl
24	133	96.4	145	US-10-392-931-4	Sequence 4, Appl
25	133	96.4	145	US-10-418-529-4	Sequence 4, Appl
26	133	96.4	145	US-10-083-817-2	Sequence 2, Appl
27	133	96.4	145	US-10-268-447-4	Sequence 4, Appl
28	133	96.4	147	US-10-346-802-4	Sequence 4, Appl
29	133	96.4	147	US-10-392-931-2	Sequence 2, Appl
30	133	96.4	147	US-10-418-529-2	Sequence 2, Appl
31	133	96.4	147	US-10-083-817-1	Sequence 1, Appl
32	133	96.4	147	US-10-268-447-2	Sequence 2, Appl
33	133	96.4	150	US-09-832-355A-61	Sequence 61, Appl
34	133	96.4	154	US-09-832-355A-59	Sequence 59, Appl
35	133	96.4	154	US-09-832-355A-62	Sequence 62, Appl
36	133	96.4	162	US-09-832-355A-60	Sequence 60, Appl
37	133	96.4	164	US-10-293-157-24	Sequence 24, Appl
38	133	96.4	165	US-10-318-302-1	Sequence 1, Appl
39	133	96.4	165	US-10-200-050-3	Sequence 3, Appl
40	133	96.4	171	US-09-812-133-2	Sequence 2, Appl
41	133	96.4	188	US-10-293-157-28	Sequence 28, Appl
42	133	96.4	190	US-09-813-198-8	Sequence 8, Appl
43	133	96.4	191	US-09-349-954A-2	Sequence 2, Appl
44	133	96.4	191	US-09-932-451A-2	Sequence 2, Appl
45	133	96.4	191	US-09-907-007-2	Sequence 2, Appl

ALIGNMENTS

RESULT 1
US-10-139-876-13
Sequence 13, Application US/10139876
Publication No. US20020123461A1
GENERAL INFORMATION:
APPLICANT: Oliviero, Salvatore
TITLE OF INVENTION: C-Fos induced Growth Factor (Ftgf) And Dna Encoding Same
FILE REFERENCE: 35784/205172
CURRENT APPLICATION NUMBER: US/10/139,876
CURRENT FILING DATE: 2002-05-07
PRIOR APPLICATION NUMBER: 09/043,476
PRIOR FILING DATE: 1998-03-18
PRIOR APPLICATION NUMBER: PCT/IB96/0113
PRIOR FILING DATE: 1996-09-30
PRIOR APPLICATION NUMBER: GB9612368.2
PRIOR FILING DATE: 1996-06-13
PRIOR APPLICATION NUMBER: GB9519928.7
PRIOR FILING DATE: 1995-09-29
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 13
LENGTH: 47
TYPE: PRT
ORGANISM: unknown
FEATURE:
OTHER INFORMATION: mammalian
FEATURE:
NAME/KEY: PEPTIDE
LOCATION: (1)...(47)
OTHER INFORMATION: segment of VEGF
US-10-139-876-13

Query Match 96.4% Score 133; DB 14; Length 47;
Best Local Similarity 96.2% Pred. No. 1.2e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
1 CNDGLSEVPTESNITQIMRIKPH 26
|||||

Db 1 CNDEGLCVPTESNITMQRKPH 26

RESULT 2

US-10-086-623-14

Sequence 14, Application US/10086623
Publication No. US20020164710A1

GENERAL INFORMATION:

APPLICANT: ERIKSSON, Ulf

APPLICANT: AASE, Karin

APPLICANT: LI, Xuri

APPLICANT: PONTEN, Annica

APPLICANT: TUTELA, Marko

APPLICANT: ALITALO, Kari

APPLICANT: OESTMAN, Arne

APPLICANT: HEIDIN, Carl-Henrik

TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D, DNA CODING THEREFOR AND USES TH

FILE REFERENCE: 1064/44833C2

CURRENT FILING DATE: 2000-03-04

PRIOR FILING DATE: 1998-11-10

PRIOR FILING DATE: 1998-11-10

PRIOR FILING DATE: 1998-12-28

PRIOR FILING DATE: 1999-08-26

PRIOR FILING DATE: 1999-10-04

PRIOR FILING DATE: 1999-10-05

PRIOR FILING DATE: 1999-11-10

PRIOR FILING DATE: 2000-10-19

NUMBER OF SEQ ID NOS: 42

SOFTWARE: PatentIn version 3.1

SEQ ID NO 14

LENGTH: 79

TYPE: PRT

ORGANISM: Homo sapiens

FEATURE:

NAME/KEY: misc.feature

OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165

US-10-086-623-14

Query Match 96.4%; Score 133; DB 14; Length 79;
Best Local Similarity 96.2%; Pred. No. 2.3e-13;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDEGLSVPTESNITMQRKPH 26

Db 36 CNDEGLCVPTESNITMQRKPH 61

RESULT 3

US-10-260-539-14

Sequence 14, Application US/10260539
Publication No. US20030073637A1

GENERAL INFORMATION:

APPLICANT: ERIKSSON, Ulf

APPLICANT: AASE, Karin

APPLICANT: LI, Xuri

APPLICANT: PONTEN, Annica

APPLICANT: TUTELA, Marko

APPLICANT: ALITALO, Kari

APPLICANT: OESTMAN, Arne

APPLICANT: HEIDIN, Carl-Henrik

TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D, DNA CODING THEREFOR AND USES TH

FILE REFERENCE: 1064/44833C2

CURRENT FILING DATE: 2002-10-01

PRIOR FILING DATE: 2000-03-04

PRIOR APPLICATION NUMBER: US 60/107,852

PRIOR FILING DATE: 1998-11-10

PRIOR APPLICATION NUMBER: US 60/113,997

PRIOR FILING DATE: 1998-12-28

PRIOR APPLICATION NUMBER: US 60/150,604

PRIOR FILING DATE: 1999-08-26

PRIOR APPLICATION NUMBER: US 60/157,108

PRIOR FILING DATE: 1999-10-04

PRIOR APPLICATION NUMBER: US 60/157,756

PRIOR FILING DATE: 1999-10-05

PRIOR APPLICATION NUMBER: US 09/438,046

PRIOR FILING DATE: 1999-11-10

PRIOR APPLICATION NUMBER: US 09/691,200

PRIOR FILING DATE: 2000-10-19

NUMBER OF SEQ ID NOS: 42

SOFTWARE: PatentIn version 3.1

SEQ ID NO 14

LENGTH: 79

TYPE: PRT

ORGANISM: Homo sapiens

FEATURE:

NAME/KEY: misc.feature

OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165

US-10-260-539-14

Query Match 96.4%; Score 133; DB 15; Length 79;
Best Local Similarity 96.2%; Pred. No. 2.3e-13;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDEGLSVPTESNITMQRKPH 26

Db 36 CNDEGLCVPTESNITMQRKPH 61

RESULT 4

US-09-832-355A-2

Sequence 2, Application US/09832355A
Publication No. US20030027751A1

GENERAL INFORMATION:

APPLICANT: Kovacs, Imre

APPLICANT: Kessler, Paul

TITLE OF INVENTION: VEGF FUSION PROTEINS

FILE REFERENCE: 205654

CURRENT APPLICATION NUMBER: US/09/832,355A

CURRENT FILING DATE: 2001-04-10

NUMBER OF SEQ ID NOS: 126

SOFTWARE: PatentIn version 3.0

SEQ ID NO 2

LENGTH: 101

TYPE: PRT

ORGANISM: Homo sapiens

US-09-832-355A-2

Query Match 96.4%; Score 133; DB 11; Length 101;
Best Local Similarity 96.2%; Pred. No. 3.1e-13;

Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDEGLSVPTESNITMQRKPH 26

Db 53 CNDEGLCVPTESNITMQRKPH 78

RESULT 5

US-09-925-299-927

Sequence 927, Application US/09925299
Patent No. US20020055627A1

GENERAL INFORMATION:

APPLICANT: Rosen et al.

TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies

FILE REFERENCE: PA102

CURRENT APPLICATION NUMBER: US/09/925,299

CURRENT FILING DATE: 2001-08-10

PRIOR APPLICATION NUMBER: PCT/US00/05883

PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 927
LENGTH: 105
TYPE: PRT
ORGANISM: Homo sapiens
US-09-925-299-927

Query Match 96.4%; Score 133; DB 9; Length 105;
Best Local Similarity 96.2%; Pred. No. 3.3e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
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Db 45 CNDGLECPTEESNITWQIMRIKPH 70
|||

RESULT 6
US-09-795-006A-51
Sequence 51, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Allitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 51
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-51

Query Match 96.4%; Score 133; DB 10; Length 105;
Best Local Similarity 96.2%; Pred. No. 3.3e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
|||
Db 54 CNDGLECPTEESNITWQIMRIKPH 79
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RESULT 7
US-09-795-006A-59
Sequence 59, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Allitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 59
LENGTH: 105

TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-59

Query Match 96.4%; Score 133; DB 10; Length 105;
Best Local Similarity 96.2%; Pred. No. 3.3e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
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Db 54 CNDGLECPTEESNITWQIMRIKPH 79
|||

RESULT 8
US-09-925-299-927
Sequence 927, Application US/09925299
Publication No. US20030040617A9
GENERAL INFORMATION:
APPLICANT: Rosen et al
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
FILE REFERENCE: PA102
CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 927
LENGTH: 105
TYPE: PRT
ORGANISM: Homo sapiens
US-09-925-299-927

Query Match 96.4%; Score 133; DB 11; Length 105;
Best Local Similarity 96.2%; Pred. No. 3.3e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
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Db 45 CNDGLECPTEESNITWQIMRIKPH 70
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RESULT 9
US-09-822-270-17
Sequence 17, Application US/09822270
Patent No. US20020068697A1
GENERAL INFORMATION:
APPLICANT: TOURNAIRE, ROSELYNE
APPLICANT: DEMANGEL, CAROLINE
APPLICANT: DERBIN, CLAUDE
APPLICANT: PERRET, GERARD
APPLICANT: MAZIE, JEAN-CLAUDE
APPLICANT: FLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIA
FILE REFERENCE: 205060US0
CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 110
TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE

US-09-822-270-17

Query Match 96.4%; Score 133; DB 9; Length 110;
Best Local Similarity 96.2%; Pred. No. 3.5e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMQRIRKPH 26
|||||
Db 61 CNDGLECVPTESNITMQRIRKPH 86

RESULT 10

US-10-342-371-17
Sequence 17, Application US/10342371
Publication No. US20030171289A1

GENERAL INFORMATION:
APPLICANT: TOURNAIRE, ROSELYNE
APPLICANT: DEMANGEL, CAROLINE
APPLICANT: DERBIN, CLAUDE
APPLICANT: PERRET, GERARD
APPLICANT: MAZIE, JEAN-CLAUDE
APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIA
FILE REFERENCE: 205060USO
CURRENT FILING DATE: 2003-01-15
PRIOR APPLICATION NUMBER: US/09/822,270
PRIOR FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 110
TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE
US-10-342-371-17

Query Match 96.4%; Score 133; DB 12; Length 110;
Best Local Similarity 96.2%; Pred. No. 3.5e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMQRIRKPH 26
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Db 61 CNDGLECVPTESNITMQRIRKPH 86

RESULT 11

US-10-392-931-10
Sequence 10, Application US/10392931
Publication No. US20030194643A1

GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
APPLICANT: Scios, Inc.
TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
FILE REFERENCE: SCIOS.003A
CURRENT FILING DATE: 1999-09-09
PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 10

LENGTH: 110
TYPE: PRT
ORGANISM: Homo sapien
US-10-392-931-10

Query Match 96.4%; Score 133; DB 12; Length 110;
Best Local Similarity 96.2%; Pred. No. 3.5e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMQRIRKPH 26
|||||
Db 61 CNDGLECVPTESNITMQRIRKPH 86

RESULT 12

US-10-392-931-11
Sequence 11, Application US/10392931
Publication No. US20030194643A1

GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
APPLICANT: Scios, Inc.
TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
FILE REFERENCE: SCIOS.003A
CURRENT FILING DATE: 1999-09-09
PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo sapien
US-10-392-931-11

Query Match 96.4%; Score 133; DB 12; Length 110;
Best Local Similarity 96.2%; Pred. No. 3.5e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMQRIRKPH 26
|||||
Db 61 CNDGLECVPTESNITMQRIRKPH 86

RESULT 13

US-10-418-529-10
Sequence 10, Application US/10418529
Publication No. US20030220262A1

GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
APPLICANT: Scios, Inc.
TITLE OF INVENTION: TREATMENT OF ECLAMPSIA AND PRE-ECLAMPSIA
FILE REFERENCE: SCIOS.003C1
CURRENT FILING DATE: 2003-04-16
PRIOR APPLICATION NUMBER: 60/099694
PRIOR FILING DATE: 1998-09-09
PRIOR APPLICATION NUMBER: 60/126406
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 60/126615
PRIOR FILING DATE: 1999-03-27
PRIOR APPLICATION NUMBER: 09/392931
PRIOR FILING DATE: 1999-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0

; SEQ ID NO 10
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-418-529-10

Query Match 96.4%; Score 133; DB 12; Length 110;
Best Local Similarity 96.2%; Pred. No. 3.5e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTESNITWQIMRIKPH 26
Db 61 CNDGELCVPTESNITWQIMRIKPH 86

RESULT 14
US-10-418-529-11
; Sequence 11, Application US/10418529
; Publication No. US200302202622A1
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; APPLICANT: Scios, Inc.
; APPLICANT: University of Washington
; TITLE OF INVENTION: TREATMENT OF ECLAMPSIA AND PREECLAMPSIA
; FILE REFERENCE: SCIOS.003C1
; CURRENT APPLICATION NUMBER: US/10/418,529
; PRIOR FILING DATE: 2003-04-16
; PRIOR APPLICATION NUMBER: 60/099694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 60/126406
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/126615
; PRIOR FILING DATE: 1999-03-27
; PRIOR APPLICATION NUMBER: 09/392931
; PRIOR FILING DATE: 1999-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-418-529-11

Query Match 96.4%; Score 133; DB 12; Length 110;
Best Local Similarity 96.2%; Pred. No. 3.5e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTESNITWQIMRIKPH 26
Db 61 CNDGELCVPTESNITWQIMRIKPH 86

RESULT 15
US-10-083-817-11
; Sequence 11, Application US/10083817
; Publication No. US20020193288A1
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
; FILE REFERENCE: SCIOS.002C1
; CURRENT APPLICATION NUMBER: US/10/083,817
; PRIOR FILING DATE: 2002-02-26
; PRIOR APPLICATION NUMBER: 60/099,694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 09/392,932
; PRIOR FILING DATE: 1999-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; LENGTH: 110

; TYPE: PRT
; ORGANISM: Homo sapien
US-10-083-817-11

Query Match 96.4%; Score 133; DB 14; Length 110;
Best Local Similarity 96.2%; Pred. No. 3.5e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTESNITWQIMRIKPH 26
Db 61 CNDGELCVPTESNITWQIMRIKPH 86

Search completed: January 30, 2004, 12:15:02
Job time : 25.8583 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:34:23 ; Search time 11.2 Seconds
(without alignments)
223.249 Million cell updates/sec

Title: US-09-266-543-7

Perfect score: 138

Sequence: 1 CNDEGLSEVPTEESNITQWIRKPH 26

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database :
1: pir1.*
2: pir2.*
3: pir3.*
4: pir4.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	133	96.4	232	2 A41551	vascular endotheli
2	127	92.0	190	2 S52130	vascular endotheli
3	122	88.4	190	2 B44881	vascular endotheli
4	122	88.4	214	2 A44881	vascular endotheli
5	121	87.7	120	2 A33787	vascular endotheli
6	121	87.7	146	2 S57956	vascular endotheli
7	121	87.7	190	2 B40080	vascular endotheli
8	121	87.7	190	2 A35987	glioma-derived vas
9	96	69.6	128	2 I51295	vascular endotheli
10	83	60.1	133	2 B49530	vascular endotheli
11	76	55.1	158	2 A56125	placental growth f
12	75	54.3	149	2 A41236	vascular endotheli
13	66	47.8	188	2 JC4680	vascular endotheli
14	66	47.8	207	2 UC4679	vascular endotheli
15	51	37.0	385	2 A91146	hypothetical prote
16	51	37.0	385	2 B85991	hypothetical prote
17	51	37.0	385	2 C65119	acridiflavin resista
18	50	36.2	830	2 T41509	serine/threonine-p
19	49	35.5	308	2 T04009	hypothetical prote
20	47	34.1	140	2 G96603	unknown protein FI
21	47	34.1	964	2 T25415	hypothetical prote
22	47	34.1	964	2 T32482	hypothetical prote
23	47	34.1	1209	2 T21455	hypothetical prote
24	46.5	33.7	578	2 S50446	VACS protein - Yea
25	46	33.3	313	2 A11948	hypothetical prote
26	46	33.3	1780	2 T17272	hypothetical prote
27	45	32.6	111	2 A69171	hypothetical prote
28	45	32.6	248	2 B81334	probable pil1 assem
29	45	32.6	294	2 AD1649	weakly phage relat

30	45	32.6	373	2 AF1802	hypothetical prote
31	45	32.6	583	2 T50103	probable oxidoredu
32	45	32.6	865	2 S69044	hypothetical prote
33	45	32.6	1536	2 B72310	hypothetical prote
34	45	32.6	1980	2 B54307	hypothetical prote
35	44.5	32.2	803	2 T47035	myosin heavy chain
36	44.5	32.2	853	2 S54364	hypothetical prote
37	44.5	32.2	1493	2 T6404	envelope polyprote
38	44.5	32.2	116	2 B72110	hypothetical prote
39	44	31.9	116	2 C96513	hypothetical prote
40	44	31.9	192	2 A48353	genome polyprotein
41	44	31.9	192	2 B48353	genome polyprotein
42	44	31.9	251	2 T08315	hypothetical prote
43	44	31.9	368	1 B6HUN	biglycan precursor
44	44	31.9	477	2 A75545	antidiphosphoribosy
45	44	31.9	487	2 G95388	probable aldehyde

ALIGNMENTS

RESULT 1
A41551
vascular endothelial growth factor 206 precursor - human
N:Alternate names: vascular permeability factor
M:Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; VEGF
C:Species: Homo sapiens (man)
C:Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999
C:Accession: A41551; C41551; B41551; A40454; B40454; A40079; A40080; J01463; J01
R:Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
Mol. Endocrinol. 5, 1806-1814, 1991
A>Title: The vascular endothelial growth factor family: identification of a fourth molec
A:Reference number: A41551; MUID:91268017; PMID:1791831
A:Accession: A41551
A:Molecule type: mRNA
A:Residues: 1-232 <HOU1>
A:Cross-references: GB:S85192; NID:G246155; PID:G246156
A:Accession: C41551
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <HOU2>
A:Accession: B41551
A:Molecule type: mRNA
A:Residues: 1-141, 227-232 <HOU>
R:Tscher, E.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.; Ab
J. Biol. Chem. 266, 11947-11954, 1991
A>Title: The human gene for vascular endothelial growth factor. Multiple protein forms a
A:Reference number: A40454; MUID:91268072; PMID:1711045
A:Accession: A40454
A:Molecule type: DNA
A:Residues: 1-165, 183-232 <TI1>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976; GB
A:Accession: B40454
A:Molecule type: DNA
A:Residues: 1-140, 'N', 183-232 <TI2>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977; GB
A:Accession: C40454
A:Molecule type: DNA
A:Residues: 1-141, 227-232 <TI3>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978
R:Reck, P.J.; Hauser, S.D.; Kivrl, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D.T.
Science 246, 1309-1312, 1989
A>Title: Vascular permeability factor: an endothelial cell mitogen related to PDGF.
A:Reference number: A40079; MUID:90065609; PMID:2479987
A:Accession: A40079
A:Molecule type: mRNA
A:Status: not compared with conceptual translation
A:Residues: 1-165, 183-232 <KEC>
A:Cross-references: GB:M7281; NID:G340300; PID:AAA36807.1; PID:G340301
R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A>Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.

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A:Reference number: A40080; MUID:90069608; PMID:2479986
A:Accession: A40080
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <LEU>
A:Cross-references: GB:M32977; NID:g181970; PIDN:AAA35789.1; PID:g181971
R:Weinberg, K.; Marne, D.; Welch, H.A.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A:Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
A:Reference number: J01463; MUID:92231879; PMID:1567395
A:Accession: J01463
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <WEI>
A:Cross-references: EMBL:X62568; NID:g37658; PIDN:CAA44447.1; PID:g37659
A:Experimental source: AIDS-Kaposi's sarcoma cell
A:Accession: J01464
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 227-232 <WE2>
A:Experimental source: AIDS-Kaposi's sarcoma cell
R:Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, N.; Hay
J. Biol. Chem. 264, 20017-20024, 1989
A:Title: Human vascular permeability factor. Isolation from U937 cells.
A:Reference number: A34492; MUID:90062112; PMID:2584205
A:Accession: A34492
A:Molecule type: protein
A:Residues: 27-36; 43-49, 'R', 72-76, 'Q', 78-81; 59-71 <CON>
A:Comment: The most common of several alternatively spliced forms is VEGF 165.
C:Genetics:
A:Gene: GDB:VEGF
A:Cross-references: GDB:132244; OMIM:192240
A:Map position: 6p21-6p12
C:Function:
A:Description: promotes fluid and protein leakage from blood vessels
C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pro
F:1-32/2/Produce: vascular endothelial growth factor 206 precursor #status predicted <V20
F:1-165, 183-232/Produce: vascular endothelial growth factor 169 precursor #status predi
F:1-141, 227-232/Produce: vascular endothelial growth factor 121 precursor #status predi
F:1-26/Boman: signal sequence #status predicted <SIG>
F:101/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 96.4%; Score 133; DB 2; Length 232;
Best Local Similarity 96.2%; Pred. No. 3e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPRESNITMOIRKPH 26
DB 87 CNDGELCPPTBSNITMOIRKPH 112

RESULT 2
SS2130
vascular endothelial growth factor - pig
C:Species: Sus scrofa domestica (domestic pig)
C:Date: 14-Jul-1995 #sequence revision 21-Jul-1995 #text_change 05-Nov-1999
A:Accession: SS2130
R:Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
A:Title: Nucleotide sequence and expression of the porcine vascular endothelial growth f
A:Reference number: SS2130; MUID:95143284; PMID:7841203
A:Accession: SS2130
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-190 <SHA>
A:Cross-references: GB:X81380; NID:g587559; PIDN:CAA57143.1; PID:g587560

Query Match 92.0%; Score 127; DB 2; Length 190;
Best Local Similarity 92.3%; Pred. No. 2.1e-12;
Matches 24; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNDGLESVPPTRESNITMOIRKPH 26
DB 86 CNDGELCPPTBSNITMOIRKPH 111

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RESULT 3
B44881
vascular endothelial growth factor-1 precursor - mouse
C:Species: Mus musculus (house mouse)
C:Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 05-Nov-1999
A:Accession: B44881; A43351; A61029
R:Breiter, G.; Albrecht, U.; Sterrer, S.; Risau, W.
Development 114, 521-532, 1992
A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis;
A:Reference number: A44881; MUID:92274860; PMID:1592003
A:Accession: B44881
A:Molecule type: mRNA
A:Residues: 1-190 <BRE>
A:Cross-references: GB:S38083; NID:g249858; PIDN:AA822253.1; PID:g249859
A:Experimental source: embryo
A:Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBIPI:107623)
R:Clafey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
J. Biol. Chem. 267, 16317-16322, 1992
A:Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti
A:Reference number: A43351; MUID:92355593; PMID:1644816
A:Accession: A43351
A:Molecule type: mRNA
A:Residues: 1-116, 'ER', 119-190 <CLA>
A:Cross-references: GB:M95200; NID:g202350; PIDN:AAA40547.1; PID:g202351
A:Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBIPI:110675)
R:Rosenthal, R.A.; Megyesi, J.F.; Henzel, W.J.; Ferrara, N.; Folkman, J.
Growth Factors 4, 53-59, 1990
A:Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial E
A:Reference number: A61029; MUID:91197543; PMID:2085441
A:Accession: A61029
A:Molecule type: protein
A:Residues: 27-38 <ROS>
C:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mlt.

Query Match 88.4%; Score 122; DB 2; Length 190;
Best Local Similarity 88.5%; Pred. No. 1.3e-11;
Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNDGLESVPPTRESNITMOIRKPH 26
DB 86 CNDGELCPPTBSNITMOIRKPH 111

RESULT 4
A44881
vascular endothelial growth factor-3 precursor - mouse
N:Contains: Mus musculus (house mouse)
C:Species: Mus musculus (house mouse)
C:Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 08-Oct-1999
A:Accession: A44881; C44881; A60932; SS2136
R:Breiter, G.; Albrecht, U.; Sterrer, S.; Risau, W.
Development 114, 521-532, 1992
A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
A:Reference number: A44881; MUID:92274860; PMID:1592003
A:Accession: A44881
A:Molecule type: mRNA
A:Residues: 1-214 <BRE>
A:Cross-references: GB:S37052; NID:g249856; PIDN:AA822252.1; PID:g249857
A:Experimental source: embryo
A:Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBIPI:104678)
A:Accession: C44881
A:Molecule type: mRNA
A:Residues: 1-140, 209-214 <RR2>
A:Cross-references: GB:S38100; NID:g249860; PIDN:AA822254.1; PID:g249861
A:Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBIPI:107625)
R:Clafey, K.P.; Gerlach, H.; Bretl, J.; Wang, F.; Familletti, P.C.; Pan, Y.C.
J. Exp. Med. 172, 1535-1545, 1990
A:Title: Vascular permeability factor: a tumor-derived polypeptide that induces endothe
A:Reference number: A60932; MUID:91079755; PMID:2258694
A:Accession: A60932
A:Molecule type: protein
A:Residues: 27-33 <CLA>

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R; Sugihara, T.; Kaul, S.C.; Mileu, Y.; Madhwa, R.
 Biochim. Biophys. Acta 1224, 365-370, 1994
 A:Title: Enhanced expression of multiple forms of VEGF is associated with spontaneous in
 A:Reference number: S52136; MUID:95101726; PMID:7803491
 A:Accession: S52136
 A:Status: preliminary
 A:Molecule type: protein
 A:Residues: 27-46 <SUG>
 C:Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
 C:Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homodimer;
 F:1-26/Domains: signal sequence #status predicted <SIG>
 F:27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>
 Query Match 88.4%; Score 122; DB 2; Length 214;
 Best Local Similarity 88.5%; Pred. No. 1.5e-11;
 Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOIRKPH 26
 Db 86 CNDSELCVPTSESNITMOIRKPH 111

RESULT 5
 A33787
 Vascular endothelial growth factor (version 1) - bovine
 C:Species: Bos primigenius taurus (cattle)
 C:Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
 C:Accession: A33787
 R:Tscher, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
 Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
 A:Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
 A:Reference number: A33787; MUID:90121225; PMID:2610687
 A:Accession: A33787
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-120 <TIS>
 A:Cross-references: GB:M33750; NID:9163810; PIDN:AAA30805.1; PID:9163811
 C:Keywords: alternative splicing

Query Match 87.7%; Score 121; DB 2; Length 120;
 Best Local Similarity 88.5%; Pred. No. 1.1e-11;
 Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOIRKPH 26
 Db 60 CNDSELCVPTSESNITMOIRKPH 85

RESULT 6
 S57956
 ovine vascular endothelial growth factor - sheep
 C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
 C:Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
 C:Accession: S57956
 R:Reimer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.
 submitted to the EMBL Data Library, July 1995
 A:Reference number: S57956
 A:Accession: S57956
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-146 <RED>
 A:Cross-references: EMBL:X89506; NID:g899350; PIDN:CAA61677.1; PID:g899351

Query Match 87.7%; Score 121; DB 2; Length 146;
 Best Local Similarity 88.5%; Pred. No. 1.4e-11;
 Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOIRKPH 26
 Db 86 CNDSELCVPTSESNITMOIRKPH 111

RESULT 7

B40080
 Vascular endothelial growth factor precursor (version 2) - bovine
 C:Species: Bos primigenius taurus (cattle)
 C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
 C:Accession: B40080; B33787; A33255
 R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
 Science 246, 1306-1309, 1989
 A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
 A:Reference number: A40080; MUID:90069608; PMID:2479986
 A:Accession: B40080
 A:Molecule type: mRNA
 A:Residues: 1-190 <LEU>
 A:Cross-references: GB:M32976; NID:9163006; PIDN:AAA30502.1; PID:9163007
 R:Tscher, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
 Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
 A:Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
 A:Reference number: A33787; MUID:90121225; PMID:2610687
 A:Accession: B33787
 A:Molecule type: mRNA
 A:Residues: 27-31 <PER>
 A:Cross-references: GB:M31836; NID:9163808; PIDN:AAA30804.1; PID:9163809
 R:Ferrara, N.; Henzel, W.J.
 Biochem. Biophys. Res. Commun. 161, 851-858, 1989
 A:Title: Pituitary follicular cells secrete a novel heparin-binding growth factor specif
 A:Reference number: A33255; MUID:89286596; PMID:2735925
 A:Accession: A33255
 A:Molecule type: protein
 A:Residues: 27-31 <PER>
 C:Keywords: alternative splicing; glycoprotein
 F:1-26/Domains: signal sequence #status predicted <SIG>
 F:27-190/Product: vascular endothelial growth factor #status predicted <MAT>
 F:100/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 87.7%; Score 121; DB 2; Length 190;
 Best Local Similarity 88.5%; Pred. No. 1.9e-11;
 Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOIRKPH 26
 Db 86 CNDSELCVPTSESNITMOIRKPH 111

RESULT 8
 A35987
 glioma-derived vascular endothelial cell growth factor - rat
 C:Species: Rattus norvegicus (Norway rat)
 C:Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
 C:Accession: A35987
 R:Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palissi, T.M.; Hope,
 Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
 A:Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is ho
 A:Reference number: A35987; MUID:90207249; PMID:2320579
 A:Accession: A35987
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-190 <CON>
 A:Cross-references: GB:M32167; NID:g204287; PIDN:AAA41211.1; PID:g204288

Query Match 87.7%; Score 121; DB 2; Length 190;
 Best Local Similarity 84.6%; Pred. No. 1.9e-11;
 Matches 22; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOIRKPH 26
 Db 86 CNDSELCVPTSESNITMOIRKPH 111

RESULT 9
 I51295
 Vascular endothelial growth factor - quail (fragment)
 C:Species: Phasianidae gen. sp. (quail)
 C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 28-Feb-1997
 C:Accession: I51295

R;Plamme, I.; Breier, G.; Risaau, W.
 Dev. Biol. 169, 699-712, 1995
 A>Title: Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (Flk-1) are expressed in human placenta
 A/Reference number: 151295; MUID:95301109; PMID:7781909
 A/Accession: 151295
 A/Status: preliminary; translated from GB/EMBL/DBJ
 A/Molecule type: DNA
 A/Residues: 1-128 <FLA>
 A/Cross-references: GB:S78343; NID:g999147; PID:g999148
 A/Genes: VEGF

Query Match 69.6%; Score 96; DB 2; Length 128;
 Best Local Similarity 65.4%; Pred. No. 1.1e-07;
 Matches 17; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOMIRKPH 26
 Db 28 CGDEGLHCVPDVVNTMEIRIKPH 53

RESULT 10
 B49530
 Vascular endothelial growth factor homolog A2R, 14.7K - Orf virus
 C/Species: Orf virus
 C/Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 08-Oct-1999
 C/Accession: B49530
 R/Lyttle, D.J.; Fraser, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, A.J.
 J. Virol. 68, 84-92, 1994
 A>Title: Homologs of vascular endothelial growth factor are encoded by the poxvirus orf
 A/Reference number: A49530; MUID:94076465; PMID:8254780
 A/Contents: N22
 A/Accession: B49530
 A/Status: preliminary
 A/Molecule type: DNA
 A/Residues: 1-133 <LYT>
 A/Cross-references: GB:S67520; NID:g456897; PIDN:AB29220.1; PID:g456899
 A/Note: sequence inconsistent with nucleotide translation
 A/Note: sequence extracted from NCBI backbone (NCBIN:141420, NCBI:P:141425)

Query Match 60.1%; Score 83; DB 2; Length 133;
 Best Local Similarity 66.7%; Pred. No. 1.3e-05;
 Matches 14; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOMIM 21
 Db 71 CNDGSLCVPTEEVNTMEL 91

RESULT 11
 A56125
 Placental growth factor precursor - rat
 C/Species: Rattus norvegicus (Norway rat)
 C/Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 05-Nov-1999
 C/Accession: A56125
 R/Disalvo, J.; Bayne, M.L.; Conn, G.; Kwok, P.W.; Trivedi, P.G.; Soderman, D.D.; Palisi, J. Biol. Chem. 270, 7717-7723, 1995
 A>Title: Purification and characterization of a naturally occurring vascular endothelial
 A/Reference number: A56125; MUID:95221439; PMID:7706320
 A/Accession: A56125
 A/Status: preliminary; not compared with conceptual translation
 A/Molecule type: mRNA
 A/Residues: 1-158 <DIS>
 A/Cross-references: GB:L40030; NID:g1263413; PIDN:AAA97426.1; PID:g1263414
 C/Keywords: glycoprotein

Query Match 55.1%; Score 76; DB 2; Length 158;
 Best Local Similarity 53.8%; Pred. No. 0.0002;
 Matches 14; Conservative 5; Mismatches 7; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOMIRKPH 26
 Db 83 CGDEGLHCVALKTANTITMOLIKIPN 108

RESULT 12
 A41236
 Placental growth factor precursor - human

C/Species: Homo sapiens (man)
 C/Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 05-Nov-1999
 C/Accession: A41236
 R/Maglione, D.; Gueriero, V.; Viglietto, G.; Dell'I-Bovi, P.; Persico, M.G.
 Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, 1991
 A>Title: Isolation of a human placenta cDNA coding for a protein related to the vascular
 A/Reference number: A41236; MUID:92021031; PMID:1924389
 A/Accession: A41236
 A/Status: preliminary
 A/Molecule type: mRNA
 A/Residues: 1-149 <MAG>
 A/Cross-references: GB:X54936; NID:g35521; PIDN:CAA38698.1; PID:g35522

Query Match 54.3%; Score 75; DB 2; Length 149;
 Best Local Similarity 50.0%; Pred. No. 0.00027;
 Matches 12; Conservative 6; Mismatches 6; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOMIRK 24
 Db 87 CGDENLHCVPETANVTMOLIKIR 110

RESULT 13
 J04680
 Vascular endothelial growth factor-related factor 167 precursor - mouse
 N/Alternate names: VRF 167 protein
 C/Species: Mus musculus (house mouse)
 C/Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
 C/Accession: J04680
 R/Townson, S.; Lagercrantz, J.; Grimond, S.; Sillins, G.; Nordenskjold, M.; Weber, G.; H. Biochem. Biophys. Res. Commun. 220, 922-928, 1996
 A>Title: Characterization of the murine VEGF-related factor gene.
 A/Reference number: J04679; MUID:96185052; PMID:8607868
 A/Accession: J04680
 A/Molecule type: mRNA
 A/Residues: 1-188 <TOM>
 A/Cross-references: GB:U43837; NID:g131435; PIDN:AA05253.1; PID:g1314336
 C/Comment: This factor is a mitogen, that is selective for endothelial cells, and belongs to the endothelial growth factors 167 and VEGF 186.
 A/Genes: vrf
 A/Map position: 19
 A/Intons: 137/2
 F/1-21/Domain: signal sequence #status predicted <SIG>
 F/22-188/Product: vascular endothelial growth factor-related factor #status predicted <M>

Query Match 47.8%; Score 66; DB 2; Length 188;
 Best Local Similarity 50.0%; Pred. No. 0.0095;
 Matches 12; Conservative 5; Mismatches 7; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEESNITMOMIRK 24
 Db 82 CPDDGLCVPICQHQVQMILMIQ 105

RESULT 14
 J04679
 Vascular endothelial growth factor-related factor 186 precursor - mouse
 N/Alternate names: VRF 186 protein, VEGF 186
 C/Species: Mus musculus (house mouse)
 C/Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
 C/Accession: J04679
 R/Townson, S.; Lagercrantz, J.; Grimond, S.; Sillins, G.; Nordenskjold, M.; Weber, G.; Biochem. Biophys. Res. Commun. 220, 922-928, 1996

A/Title: Characterization of the murine VEGF-related factor gene.

A/Reference number: JC4679; MUID:96183052; PMID:8607868

A/Accession: JC4679

A/Molecule type: mRNA

A/Residues: 1-207 <TOM>

A/Cross-references: GB:U43836; NID:G1703480; PID:MAC52932.1; PID:G1314334

C/Comment: This factor is a mitogen, that is selective for endothelial cells, and belongs to the endothelial growth factors 167 and 168.

C/Genetics:

A/Gene: vrf

A/Map position: 19

C/Keywords: growth factor

F/1-21/Domain: signal sequence #status predicted <SIG>

F/22-207/Product: vascular endothelial growth factor related factor #status predicted <V

Query Match 47.8%; Score 66; DB 2; Length 207;

Best Local Similarity 50.0%; Pred. No. 0.011;

Matches 12; Conservative 5; Mismatches 7; Indels 0; Gaps 0;

QY 1 CNDGLESVPTESNITWQIRIK 24

Db 82 CPDGLGECVPRGCHQVHMQLIMIQ 105

RESULT 15

A91146

hypothetical protein EC64137 [imported] - Escherichia coli (strain O157:H7, substrain R1

C/Species: Escherichia coli

C/Date: 18-Jul-2001 #sequence_revision 18-Jul-2001 #text_change 18-Jul-2001

C/Accession: A91146

R/Hayashi, T.; Makino, K.; Ohnishi, M.; Kurokawa, K.; Ishii, K.; Yokoyama, K.; Han, C.G.

gasawara, N.; Yasunaga, T.; Kuhnara, S.; Shiba, T.; Hattori, M.; Shinagawa, H.

DNA Res. 8: 11-22, 2001

A/Title: Complete genome sequence of enterohemorrhagic Escherichia coli O157:H7 and gen

A/Reference number: A99629; MUID:21156231; PMID:11258796

A/Accession: A91146

A/Status: Preliminary

A/Molecule type: DNA

A/Residues: 1-385 <HAV>

A/Cross-references: GB:BA000007; PIDN:BA837560.1; PID:G13363610; GSPDB:GN00154

A/Experimental source: strain O157:H7, substrain R1MD 0509952

C/Genetics:

A/Gene: EC64137

Query Match 37.0%; Score 51; DB 2; Length 385;

Best Local Similarity 36.0%; Pred. No. 5.1;

Matches 9; Conservative 5; Mismatches 11; Indels 0; Gaps 0;

QY 1 CNDGLESVPTESNITWQIRIK 25

Db 24 CNDKGEKAVGEPQVTHIVKTAP 48

Search completed: January 30, 2004, 11:46:17
Job time : 12.2 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:48 ; Search time 6 Seconds
(without alignments)

203.782 Million cell updates/sec

Title: US-09-266-543-7
Perfect score: 138
Sequence: 1 CNDEGLSEVPRESNITQWIRKPH 26

Scoring table: BLOSUM62
Gapop 10.0 , Gapept 0.5

Searched: 127863 seqs, 47026705 residues
Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	133	96.4	232	1 VEGA_HUMAN	P16692 homo sapien
2	127	92.0	190	1 VEGA_PIG	P49151 sus scrofa
3	127	92.0	214	1 VEGA_CANFA	Q9MYV3 canis famil
4	122	88.4	214	1 VEGA_MOUSE	Q00731 mus musculu
5	121	87.7	146	1 VEGA_SHEEP	P50412 ovis aries
6	121	87.7	164	1 VEGA_HORSE	P26617 cavia porce
7	121	87.7	190	1 VEGA_BOVIN	P15691 bos taurus
8	121	87.7	190	1 VEGA_HORSE	Q9GK70 equus cabal
9	121	87.7	214	1 VEGA_RAT	P16612 rattus norv
10	116	84.1	190	1 VEGA_MESAU	Q99D81 mesocricetu
11	96	69.6	216	1 VEGA_CHICK	P52582 gallus gall
12	84	60.9	158	1 PIGF_MOUSE	P49764 mus musculu
13	79	57.2	133	1 VEGH_ORF2	P52584 orf vitus (
14	76	55.1	158	1 PIGF_RAT	Q64334 rattus norv
15	75	54.3	221	1 PIGF_BOVIN	P49763 homo sapien
16	71	51.4	149	1 PIGF_HUMAN	Q9X847 bos taurus
17	67	48.6	207	1 VEGB_HUMAN	P49765 homo sapien
18	66	47.8	207	1 VEGB_BOVIN	Q9X849 bos taurus
19	66	47.8	207	1 VEGB_MOUSE	P49766 mus musculu
20	60	43.5	135	1 VEGB_RAT	P23480 rattus norv
21	51	37.0	385	1 ACRE_ECOLI	P24180 escherichia
22	46.5	33.7	578	1 VACB_YEAST	P39968 saccharomyc
23	46	33.3	358	1 VEGD_MOUSE	P97946 mus musculu
24	46	33.3	369	1 PGSI_CANFA	O02678 canis famil
25	46	33.3	646	1 Q9H2U1	Q9H2U1 homo sapien
26	46	33.3	1050	1 TLR7_MOUSE	P58681 mus musculu
27	45	33.6	111	1 P538_METTH	O26338 methanobact
28	45	33.6	1536	1 Y984_THEMA	Q93079 thermotoga
29	45	32.6	1980	1 MY9B_RAT	O63358 rattus norv
30	45	32.6	2114	1 MY9B_MOUSE	Q9G706 mus musculu
31	44.5	32.2	853	1 ENV_FV122	P12487 human immun
32	44	31.9	368	1 PGSI_HUMAN	P21810 homo sapien
33	44	31.9	377	1 MOA_CORGI	Q8H60 corynabacte

34	44	31.9	515	1 PDI_ASPO	Q00248 aspergillus
35	44	31.9	564	1 CDC7_MOUSE	Q940h0 mus musculu
36	44	31.9	757	1 LGR7_HUMAN	Q9Hbx9 homo sapien
37	44	31.9	972	1 POLS_IPNVN	P22495 infectious
38	44	31.9	1290	1 SMC4_XENLA	P50532 xenopus lae
39	43.5	31.5	294	1 ISPE_FUSNA	Q876c8 fusobacteri
40	43	31.2	260	1 PCNA_SCHPO	Q03392 schizosach
41	43	31.2	306	1 ISPE_MYCTU	O05596 mycobacteri
42	43	31.2	345	1 TM04_MOUSE	Q911h8 mus musculu
43	43	31.2	365	1 PCN2_DAUCA	Q00265 daucus caro
44	43	31.2	419	1 VEGC_HUMAN	P49767 homo sapien
45	43	31.2	450	1 OSTA_SCHPO	Q10176 schizosach

ALIGNMENTS

RESULT 1
VEGA_HUMAN STANDARD: PRT: 232 AA.
AC P16692; O60720; O75875; Q16889; Q96NW5; Q9H1W8; Q9H1W9; Q9UH58;
AC Q9UT23; 060720; O75875; Q16889; Q96NW5; Q9H1W8; Q9H1W9; Q9UH58;
DT 01-APR-1990 (Rel. 14, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
NCBI_Taxid=9606;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS VEGF189 AND VEGF165).
RX MEDLINE=90069608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic mitogen.";
RL Science 246:1306-1309 (1989).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM VEGF189), AND PARTIAL SEQUENCE.
RX MEDLINE=90069609; PubMed=2479987;
RA Keck P.J., Hauser S.D., Kivvi G., Sanzo K., Warren T., Feder J., Connolly D.T.;
RT "Vascular permeability factor, an endothelial cell mitogen related to PDGF.";
RL Science 246:1309-1312 (1989).
RN [3]
RP SEQUENCE FROM N.A. (ISOFORM VEGF189).
RX MEDLINE=91268072; PubMed=1711045;
RA Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D., Fiddes J.C., Abraham J.A.;
RT "The human gene for vascular endothelial growth factor. Multiple protein forms are encoded through alternative exon splicing.";
RL J. Biol. Chem. 266:11947-11954 (1991).
RN [4]
RP SEQUENCE FROM N.A. (ISOFORM VEGF206).
RX MEDLINE=92168017; PubMed=1791831;
RA Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;
RT "The vascular endothelial growth factor family: identification of a fourth molecular species and characterization of alternative splicing of RNA.";
RL Mol. Endocrinol. 5:1806-1814 (1991).
RN [5]
RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
RX MEDLINE=92231879; PubMed=1567395;
RA Weindel K., Marme D., Welch H.A.;
RT "AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial growth factor.";
RL Biochem. Biophys. Res. Commun. 183:1167-1174 (1992).
RN [6]
RP SEQUENCE FROM N.A. (ISOFORM VEGF145).
RX MEDLINE=97207275; PubMed=9054410;

RA Poltorak Z., Cohen T., Sivan R., Kandelis Y., Spira G., Vlodavsky I.,
 RA Keshet E., Neufeld G.;
 RT "VEGF145, a secreted vascular endothelial growth factor isoform that
 RT binds to extracellular matrix.";
 RL J. Biol. Chem. 272:7151-7158(1997).
 RN [17]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF183).
 RC TISSUE=Kidney;
 RX MEDLINE=98096474; PubMed=9878851;
 RA Lei J., Jiang A., Pei D.;
 RT "Identification and characterization of a new splicing variant of
 RT vascular endothelial growth factor: VEGF183.";
 RL Biochim. Biophys. Acta 1443:400-406(1998).
 RN [8]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RC TISSUE=Breast;
 RX MEDLINE=99119755; PubMed=9450968;
 RA Claffey K.P., Shih S.-C., Mullen A., Dziennis S., Cusick J.L.,
 RA Abrams K.R., Lee S.W., Detmar M.;
 RT "Identification of a human VEGF/VEGF 3' untranslated region mediating
 RT hypoxia-induced mRNA stability.";
 RL Mol. Biol. Cell 9:469-481(1998).
 RN [9]
 RP SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
 RC TISSUE=Retina;
 RX MEDLINE=99165303; PubMed=10067980;
 RA Jiajing L., Xue Y., Agarwal N., Roque R.S.;
 RT "Human Muller cells express VEGF183, a novel spliced variant of
 RT vascular endothelial growth factor.";
 RL Invest. Ophthalmol. Vis. Sci. 40:752-759(1999).
 RN [10]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RC TISSUE=Hemangioidendelioma;
 RX Murata H., Fukushima J., Hattori S., Okuda K., Yanagi H.;
 RT "Human CDNA for the vascular endothelial growth factor isoform
 RT VEGF165.";
 RL Submitted (DEC-1998) to the EMBL/Genbank/DBJ databases.
 RN [11]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF148).
 RC TISSUE=Renal glomerulus;
 RX MEDLINE=99394945; PubMed=10464055;
 RA Whittle C.J., Gillespie K.M., Harrison R., Mathieson P.W.,
 RA Harper S.J.;
 RT "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA
 RT and receptor mRNA expression in human glomeruli, and the
 RT identification of VEGF148 mRNA, a novel truncated splice variant.";
 RL Clin. Sci. 97:303-312(1999).
 RN [12]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF121).
 RA Sato J.D., Whitney R.G.;
 RT "Human cDNA for vascular endothelial growth factor isoform VEGF121.";
 RL Submitted (DEC-1999) to the EMBL/Genbank/DBJ databases.
 RN [13]
 RP SEQUENCE FROM N.A.
 RA Williams S.;
 RT Submitted (DEC-2000) to the EMBL/Genbank/DBJ databases.
 RN [14]
 RP SEQUENCE OF 23-232 FROM N.A. (VEGF165).
 RA Rieder M.J., Armet T.Z., Carrington D.P., Chung M.-W., Lee K.L.,
 RA Poel C.L., Toch B.J., Yi Q., Nickerson D.A.;
 RT Submitted (OCT-2001) to the EMBL/Genbank/DBJ databases.
 RN [15]
 RP PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
 RX MEDLINE=90062112; PubMed=2584205;
 RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monseil R.,
 RA Siegel N., Haymore B.L., Leimgruber R., Feder J.;
 RT "Human vascular permeability factor. Isolation from U937 cells.";
 RL J. Biol. Chem. 264:20017-20024(1989).
 RN [16]
 RP SEQUENCE OF 27-41.
 RX MEDLINE=93145946; PubMed=7678805;
 RA Fieich B.L., Jaeger B., Schoellmann C., Weindel K., Wilting J.,
 RA Koehls G., Marne D., Hug H., Welch H.A.;

RT "Synthesis and assembly of functionally active human vascular
 RT endothelial growth factor homodimers in insect cells.";
 RL Eur. J. Biochem. 211:19-26(1993).
 RN [17]
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
 RX MEDLINE=97352774; PubMed=9207067;
 RA Muller Y.A., Li B., Christinger H.W., Welle J.A., Cunningham B.C.,
 RA de Vos A.M.;
 RT "Vascular endothelial growth factor: crystal structure and functional
 RT mapping of the kinase domain receptor binding site.";
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
 RN [18]
 RP X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
 RX MEDLINE=98035455; PubMed=9351807;
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.;
 RT "The crystal structure of vascular endothelial growth factor (VEGF)
 RT refined to 1.93-A resolution: multiple copy flexibility and receptor
 RT binding.";
 RL Structure 5:1325-1338(1997).
 RN [19]
 RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RX MEDLINE=99119204; PubMed=9922142;
 RA Wiseman C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.;
 RT "Crystal structure of the complex between VEGF and a receptor-blocking
 RT peptide.";
 RL Biochemistry 37:17765-17772(1998).
 RN [20]
 RP STRUCTURE BY NMR OF 34-135.
 RX MEDLINE=97477915; PubMed=9336848;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.;
 RT "1H, 13C, and 15N backbone assignment and secondary structure of the
 RT receptor-binding domain of vascular endothelial growth factor.";
 RL Protein Sci. 6:2250-2260(1997).
 RN [21]
 RP STRUCTURE BY NMR OF 137-215.
 RX MEDLINE=98298440; PubMed=9634701;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.;
 RT "Solution structure of the heparin-binding domain of vascular
 RT endothelial growth factor.";
 RL Structure 6:637-648(1998).
 RN [22]
 RP FUNCTION.
 RX MEDLINE=21320570; PubMed=11427521;
 RA Murphy J.F., Fitzgerald D.J.;
 RT "Vascular endothelial growth factor induces cyclooxygenase-dependent
 RT proliferation of endothelial cells via the VEGF-2 receptor.";
 RL FASEB J. 15:1667-1669(2001).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin. Neuropilin-1 binds isoforms VEGF-165 and VEGF-145.
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF121 is acidic and freely secreted.
 CC VEGF165 is more basic, has heparin-binding properties and,
 CC although a significant proportion remains cell-associated, most is
 CC freely secreted. VEGF189 is very basic; it is cell-associated
 CC after secretion and is bound avidly by heparin and the soluble
 CC extracellular matrix, although it may be released as a soluble
 CC form by heparin, heparinase or plasmin.
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing: Named isoforms=7;
 CC Comment=Experimental confirmation may be lacking for some
 CC isoforms;
 CC Name=VEGF206;
 CC IsoId=P15692-1; Sequence=Displayed;
 CC Name=VEGF189;
 CC IsoId=P15692-2; Sequence=VSP_004622;

Query Match 96.4%; Score 133; DB 1; Length 222;
 Best Local Similarity 96.2%; Pred. No. 7.7e-14;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEESNITWQIMRIKPH 26
 DB 87 CNDGLESVPTEESNITWQIMRIKPH 112

RESULT 2
 ID VEGA_PIG STANDARD; PRT; 190 AA.
 AC P49151; Q9GL52; 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 OX NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Heart;
 RX MEDLINE=95143284; PubMed=7841203;
 RA Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;
 RT "Nucleotide sequence and expression of the porcine vascular endothelial growth factor".
 RL Biochim. Biophys. Acta 1260:235-238(1995).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA Lee T., Cauty J.M.;
 RT "PCR cloning of porcine cardiac vascular endothelial growth factor gene".
 RL Submitted (NOV-2000) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See <http://www.isb-sib.ch/announce/> or send an email to license@isb-sib.ch).
 CC -----
 CC EMBL; X81380; CAA57143.1; -
 CC EMBL; AF18502; AAG33064.1; -
 CC PIR; S52130; S52130.
 CC HSSP; P15692; 1YGH.
 CC InterPro; IPR000072; PD_growth_factor.
 CC Pfam; PF00341; PDGF; 1.
 CC ProDom; PD001629; PD_growth_factor; 1.
 CC SMART; SM00141; PDGF; 1.
 CC PROSITE; PS00249; PDGF_1; 1.
 CC PROSITE; PS0278; PDGF_2; 1.
 CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 CC Heparin-binding; Multigene family.
 CC SIGNAL 1 26 POTENTIAL.
 CC CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.

FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
 FT CONFLICT 102 102 T -> A (IN REF. 2).
 SQ SEQUENCE 190 AA; 22368 MW; 04D408BD913047F CRC64;

Query Match 92.0%; Score 127; DB 1; Length 190;
 Best Local Similarity 92.3%; Pred. No. 5.6e-13;
 Matches 24; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEESNITWQIMRIKPH 26
 DB 86 CNDGLESVPTEESNITWQIMRIKPH 111

RESULT 3
 ID VEGA_CANPA STANDARD; PRT; 214 AA.
 AC Q9MTV3; Q9XSF3; Q9XSF4; Q9XSF5;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Canis familiaris (Dog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
 OX NCBI_TaxID=9615;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-188).
 RX MEDLINE=20125516; PubMed=10661874;
 RA Scheidegger P., Weiglhofer W., Suarez S., Kaser-Holz B., Steiner R.,
 RA Ballmer-Hofer K., Jausel R.;
 RT "Vascular endothelial growth factor (VEGF) and its receptors in tumor-bearing dogs".
 RL Biol. Chem. 380:1449-1454(1999).
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).
 RC TISSUE=Heart;
 RA Jüngling L., Roque R.S.;
 RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing; Named isoforms=3;
 CC Comment=Additional isoforms seem to exist;
 CC Name=VEGF-188;
 CC IsoId=Q9MYV3-1; Sequence=Displayed;
 CC Name=VEGF-182;
 CC IsoId=Q9MYV3-2; Sequence=VSP_004617;
 CC Name=VEGF-164;
 CC IsoId=Q9MYV3-3; Sequence=VSP_004615; VSP_004616;
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC -----
DR EMBL; AJ133758; CAB2426.1; -
DR EMBL; AF133250; AAD29684.1; -
DR EMBL; AF133249; AAD29683.1; -
DR EMBL; AF133248; AAD29682.1; -
DR HSSP; P15692; IVGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 214
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD -100 100
FT VASAPLIC 140 140
FT VASAPLIC 141 164
FT VASAPLIC 159 164
FT CONFLICT 143 143
FT CONFLICT 161 161
SQ SEQUENCE 214 AA; 25175 MW; 0AC980A158C44B27 CMC64;

Query Match 92.0%; Score 127; DB 1; Length 214;
Best Local Similarity 92.3%; Pred. No. 6.5e-13;
Matches 24; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CNDGLESVPTESNITQIMRIKH 26
Db 86 CNDGELCVTEEFNITQIMRIKH 111

RESULT 4
VEGA_MOUSE
ID VEGA_MOUSE STANDARD; PRT; 214 AA.
AC 000731;
DT 01-APR-1993 (Rel. 25, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCB1_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORMS VEGF-1; VEGF-2 AND VEGF-3).
RX MEDLINE=92274860; PubMed=1592003;
RA Breier G., Albrecht U., Steier S., Risau W.;
RA "Expression of vascular endothelial growth factor during embryonic
RT angiogenesis and endothelial cell differentiation.";
RL Development 114:521-532(1992).
RN [2]
RP SEQUENCE FROM N.A. (ISOFORM VEGF-1).
RX MEDLINE=92355593; PubMed=1644816;
RA Claffey K.P., Milkison W.O., Spiegelman B.M.;
RT "Vascular endothelial growth factor. Regulation by cell
RT differentiation and activated second messenger pathways.";
RL J. Biol. Chem. 267:16317-16322(1992).
RN [3]
RP SEQUENCE OF 1-3 FROM N.A.
RX MEDLINE=96216498; PubMed=8632007;

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RA Shima D.T., Kuroki M., Deutsch U., Ng Y., Adams A.P., D'Amore P.A.;
RT "The mouse gene for vascular endothelial growth factor. Genomic
RT structure, definition of the transcriptional unit, and
RT characterization of transcriptional and post-transcriptional
RT regulatory sequences.";
RL J. Biol. Chem. 271:3877-3883(1996).
CC -1 FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1 SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1 SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3
CC remains cell-surface associated unless released by heparin.
CC -1 ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=3;
CC Name=VEGF-3; Synonyms=VEGF188;
CC IsoId=Q00731-1; Sequence=Displayed;
CC Name=VEGF-1; Synonyms=VEGF164;
CC IsoId=Q00731-2; Sequence=VSP_004626, VSP_004627;
CC Name=VEGF-2; Synonyms=VEGF120;
CC IsoId=Q00731-3; Sequence=VSP_004628;
CC -1 TISSUE SPECIFICITY: In developing embryos, expressed mainly in the
CC choroid plexus, paraventricular neuroepithelium, placenta and
CC kidney glomeruli. Also found in bronchial epithelium, adrenal
CC gland and in seminiferous tubules of testis. High expression of
CC VEGF continues in kidney glomeruli and choroid plexus in adults.
CC -1 DOMAIN: VEGF-3 contains a basic insert which acts as a cell
CC retention signal.
CC -1 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC or send an email to license@ib-sib.ch).
CC -----
DR EMBL; S37052; AAB2252.1; -
DR EMBL; S38083; AAB2253.1; -
DR EMBL; S38100; AAB2254.1; -
DR EMBL; M95200; AAA0547.1; -
DR EMBL; U41883; -; NOT_ANNOTATED_CDS.
DR PIR; A44881; A44881.
DR PIR; B44881; B44881.
DR HSSP; P15692; 2VPF.
DR MGD; MGI:103178; Vegfa.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 214
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
FT VASAPLIC 140 140
FT VASAPLIC 141 164
FT VASAPLIC 141 208
FT CONFLICT 117 118
GE -> ER (IN REF. 2).

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SQ SEQUENCE 214 AA; 25283 MW; B5540B51E4B6E17 CRC64;

Query Match 88.4%; Score 122; DB 1; Length 214;

Best Local Similarity 88.5%; Pred. No. 4,1e-12;

Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDEGLSVPTRESNITWQIMRIKPH 26
 DB 86 CNDEALCEVPTRESNITWQIMRIKPH 111

RESULT 5

VEGA_SHEEP STANDARD; PRT; 146 AA.

AC P50412;
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovidae; Caprinae; Ovis.
 OX NCBI_TaxID=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Kidney;
 RX MEDLINE=97117958; PubMed=8958842;
 RA Redner D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K., Reynolds L.P., Moor R.M.;
 RT "Characterization and expression of vascular endothelial growth factor (VEGF) in the ovine corpus luteum";
 RL J. Reprod. Fert. 108:157-165(1996).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (by similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (by similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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 CC -----
 CC EMBL; X89506; CAA61677.1; -
 DR PIR; S57956; S57956.
 DR HSSP; P15692; 1VGP.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Multigene family.
 KM SIGNAL
 FT CHAIN 1 26
 FT SIGNAL 1 26
 FT DISULFID 27 146
 FT DISULFID 51 93
 FT DISULFID 82 127
 FT DISULFID 86 129
 FT DISULFID 76 76
 FT DISULFID 85 85
 FT CARBOHYD 100 100
 SEQUENCE 146 AA; 17247 MW; 4E792CB557F91760 CRC64;

Query Match 87.7%; Score 121; DB 1; Length 146;

Best Local Similarity 88.5%; Pred. No. 3.8e-12;

Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDEGLSVPTRESNITWQIMRIKPH 26
 DB 86 CNDESLCEVPTRESNITWQIMRIKPH 111

RESULT 6

VEGA_CAVPO STANDARD; PRT; 164 AA.

AC P26617;
 DT 01-AUG-1992 (Rel. 23, Created)
 DT 01-AUG-1992 (Rel. 23, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Cavia porcellus (Guinea pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Hystriognathi; Cavidae; Cavia.
 OX NCBI_TaxID=10141;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Bile duct;
 RA Berse B.;
 RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.
 CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (by similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (by similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (by similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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 CC -----
 CC EMBL; M84230; AAA37057.1; -
 DR HSSP; P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein.
 KM SIGNAL
 FT DISULFID 25 67
 FT DISULFID 56 101
 FT DISULFID 60 103
 FT DISULFID 50 50
 FT DISULFID 59 59
 FT CARBOHYD 74 74
 SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DCA4 CRC64;

Query Match 87.7%; Score 121; DB 1; Length 164;
 Best Local Similarity 88.5%; Pred. No. 4.3e-12;
 Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDEGLSVPTRESNITWQIMRIKPH 26
 DB 60 CNDESLCEVPTRESNITWQIMRIKPH 85

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RESULT 7
ID VEGA BOVIN STANDARD; PRT; 190 AA.
AC P15691;
DT 01-APR-1990 (Rel. 14, Last Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Bovinae; Bos.
OC NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.
RX MEDLINE=90069608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic mitogen.";
RL Science 246:1306-1309 (1989).
RN [2]
RP SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND BETA).
RX MEDLINE=90121225; PubMed=2610687;
RA Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J., Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
RT "Vascular endothelial growth factor: a new member of the platelet-derived growth factor gene family.";
RL Biochem. Biophys. Res. Commun. 165:1198-1206 (1989).
RN [3]
RP SEQUENCE OF 27-31.
RX MEDLINE=89286596; PubMed=2735925;
RA Ferrara N., Henzel W.J.;
RT "Pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";
RL Biochem. Biophys. Res. Commun. 161:851-858 (1989).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Name=Alpha;
CC IsoId=PI5691-1; Sequence=Displayed;
CC Name=Beta;
CC IsoId=PI5691-2; Sequence=VSP_004613; VSP_004614;
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC -----
CC EMBL; M32976; AAA30502.1; -
CC EMBL; M31836; AAA30804.1; -
CC EMBL; M33750; AAA30805.1; -
CC PIR; B40080; B40080.
CC HSSP; P15692; 1VGH.
CC InterPro: IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF; 1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF; 1.

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DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 51 93 BY SIMILARITY.
FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT VASAPLIC 139 183 Missing (in isoform Beta).
FT VASAPLIC 184 184 /Ftid=VSP_004613.
FT VASAPLIC 184 184 R -> K (in isoform Beta).
FT FTId=VSP_004614.
SQ SEQUENCE 190 AA; 22310 MW; EDBP903E46E24789 CRC64;
Query Match 87.7%; Score 121; DB 1; Length 190;
Best Local Similarity 88.5%; Pred. No. 5.2e-12;
Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
QY 1 CNDGLESVPTREBSNITMQRKPH 26
Db 86 CNDGSLCVPTEEFNITMQRKPH 111
RESULT 8
ID VEGA HORSE STANDARD; PRT; 190 AA.
AC Q9GKR0;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
CC NCBI_TaxID=9796;
RN [1]
RP SEQUENCE FROM N.A.
RA Miura N., Miura K., Kawahara K., Nakashima M., Fukumitsu S., Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;
RT "Cloning of cDNA and high-level expression of equine vascular endothelial growth factor (VEGF).";
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC -----
CC EMBL; AB053350; BAB20890.1; -
CC HSSP; P15692; 1VGH.
CC InterPro: IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF; 1.
CC ProDom; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF; 1.
CC PROSITE; PS00249; PDGF_1; 1.

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DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Mesocricetus auratus (Golden hamster).
 OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 CC Mesocricetus
 CC NCBI_TaxID=10036;
 OK NCBI_TaxID=10036;
 RN [1]
 RN SEQUENCE FROM N.A.
 RC TISSUE=Decidua, and Embryo;
 RX MEDLINE=99311285; PubMed=10382276;
 RA Yi X.U., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
 RT "Expression of vascular endothelial growth factor (VEGF) and its receptors during embryonic implantation in the golden hamster (Mesocricetus auratus).";
 RL Cell Tissue Res. 296:339-349(1999).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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 CC -----
 CC EMBL: AF063013; AAK00049.1; -.
 CC HSSP: P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF_1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF_1.
 DR PROSITE: PS00249; PDGF_1; 1.
 DR PROSITE: PS00278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Multigene family.
 FT SIGNAL 1 26 BY SIMILARITY.
 FT CHAIN 1 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC...) (POTENTIAL).
 SQ SEQUENCE 190 AA; 22276 MW; F00C5A8EA79A465F CRC64;
 Query Match 84.1%; Score 116; DB 11; Length 190;
 Best Local Similarity 80.8%; Pred. No. 3.3e-11;
 Matches 21; Conservative 2; Mismatches 3; Indels 0; Gaps 0;
 QY 1 CNDEGLSVPTESNITQIMRIKPH 26
 DB 86 CSDEALCECPSESNTIMQIMKVKPH 111
 RESULT 11
 VEGA_CHICK
 ID VEGA_CHICK STANDARD; PRT; 216 AA.

AC P52582; Q91420;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 15-JUL-1998 (Rel. 36, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Gallus gallus (Chicken), and
 OS Coturnix coturnix japonica (Japanese quail).
 OS Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 CC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 CC Gallus.
 CC NCBI_TaxID=9031, 93934;
 OK NCBI_TaxID=9031, 93934;
 RN [1]
 RN SEQUENCE FROM N.A.
 RC SPECIES=Chicken; TISSUE=Heart;
 RA Takahashi T.;
 RT "Chick embryonic ventricular myocytes VEGF";
 RL Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
 RN [2]
 RN SEQUENCE FROM N.A. (ISOFORMS VEGF-190; VEGF-166 AND VEGF-146).
 RC SPECIES=C.C.japonica; TISSUE=Embryo;
 RX MEDLINE=96005007; PubMed=7556923;
 RA Flamme I., von Reutern M., Drexler H.C., Syed-Ali S., Rissau W.;
 RT "Overexpression of vascular endothelial growth factor in the avian embryo induces hypervascularization and increased vascular permeability without alterations of embryonic pattern formation.";
 RL Dev. Biol. 171:399-414(1995).
 RN [3]
 RN SEQUENCE OF 60-187 FROM N.A. (ISOFORMS VEGF-190 AND VEGF-166).
 RC SPECIES=C.C.japonica;
 RX MEDLINE=95301109; PubMed=7781909;
 RA Flamme I., Breier G., Rissau W.;
 RT "Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (Flk-1) are expressed during vasculogenesis and vascular differentiation in the quail embryo.";
 RL Dev. Biol. 169:699-712(1995).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=3;
 CC Comment=Additional isoforms seem to exist;
 CC Name=VEGF-190;
 CC IsoId=P52582-1; Sequence=Displayed;
 CC Name=VEGF-166;
 CC IsoId=P52582-2; Sequence=VSP_004633, VSP_004634;
 CC Note=Has been shown to exist only in quail so far;
 CC Name=VEGF-146;
 CC IsoId=P52582-3; Sequence=VSP_004635, VSP_004636;
 CC Note=Has been shown to exist only in quail so far;
 CC -1- TISSUE SPECIFICITY: Abundantly and equally expressed in heart and liver. In kidney glomeruli, brain and yolk sac, VEGF-166 is 5- to 10-times more abundant than VEGF-190.
 CC -1- DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1 and is upregulated during gastrulation. Expression of VEGF-190 is detectable only from day 2.
 CC -1- DOMAIN: VEGF-190 contains a basic insert which acts as a cell retention signal.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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CC -----
DR EMBL; AB011078; BAA24925.1; -
DR EMBL; S79680; AAB35371.1; -
DR HSSP; P15692; 1FVH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
  Hepatin-binding; Alternative splicing; Multigene family.
KM SIGNAL
FT CHAIN 1 26
FT DISULFID 27 216
FT DISULFID 52 94
FT DISULFID 83 128
FT DISULFID 87 130
FT DISULFID 77 77
FT DISULFID 86 86
FT CARBOHYD 101 101
FT VARSPLC 142 142
FT VARSPLC 143 166
FT VARSPLC 166 166
FT VARSPLC 166 166
FT VARSPLC 167 210
FT VARSPLC 167 210
SQ SEQUENCE 216 AA; 25203 MW; 82B669C2F6FC6DA7 CRC64;

Query Match
Best Local Similarity 69.6%; Score 96; DB 1; Length 216;
Matches 17; Conservative 3; Mismatches 6; Indels 0; Gaps 0;

QY 1 CNDEGLSVPTESNITMQRKPH 26
DB 87 CGDEGLCVPVVYVYVMEIRIKPH 112

RESULT 12
PLGF_MOUSE
ID PLGF_MOUSE STANDARD; PRT; 158 AA.
AC P49764;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Placenta growth factor precursor (PLGF).
GN PGF OR PLGF.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBT_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Heart;
RX MEDLINE=97059399; PubMed=8903720;
RA Di Palma T., Tucci M., Russo G., Maglione D., Lago C.T., Romano A.,
RA Saccone S., della Valle G., de Gregorio L., Dragani T.A.,
RA Vigiiletto G., Persico M.G.;
RT "The placenta growth factor gene of the mouse.";
RL Mamm. Genome 7:6-12(1996).
[2]
RP SEQUENCE FROM N.A.
RC STRAIN=NIH Swiss;
RX MEDLINE=98065381; PubMed=9401819;
RA Achen M.G., Gad J.M., Stacker S.A., Wilks A.F.;
RT "Placenta growth factor and vascular endothelial growth factor are
  co-expressed during early embryonic development.";
RL Growth Factors 15:69-80(1997).
-1- FUNCTION: Growth factor active in angiogenesis, and endothelial
  cell growth, stimulating their proliferation and migration. It
  binds to receptor VEGFR-1/Flt1 (By similarity).
CC -1- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as

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CC heterodimer with VEGF/VEGF-A (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; X80171; CA56453.1; -
DR EMBL; X96793; CA65587.1; -
DR HSSP; P49763; 1FZV.
DR MGD; MGI:105095; Pgf.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF; 1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR Angiogenesis; Mitogen; Growth factor; Glycoprotein; Signal.
KM SIGNAL
FT CHAIN 1 18
FT DISULFID 19 158
FT DISULFID 48 90
FT DISULFID 79 125
FT DISULFID 83 127
FT DISULFID 73 73
FT DISULFID 82 82
FT CARBOHYD 29 29
FT CARBOHYD 30 30
FT CARBOHYD 97 97
SQ SEQUENCE 158 AA; 17876 MW; F1612BBA0790438 CRC64;

Query Match
Best Local Similarity 60.9%; Score 84; DB 1; Length 158;
Matches 15; Conservative 5; Mismatches 6; Indels 0; Gaps 0;

QY 1 CNDEGLSVPTESNITMQRKPH 26
DB 83 CGDEGLHCVPIKNTANITMQRKIPN 108

RESULT 13
VEGH_ORFN2
ID VEGH_ORFN2 STANDARD; PRT; 133 AA.
AC P52584;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Vascular endothelial growth factor homolog precursor.
GN A2R.
OS Orf virus (strain NZ2) (OV NZ-2).
OC Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
OC Poxpoxvirus.
OX NCBT_TaxID=10259;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=94076465; PubMed=8254780;
RA Lytle D.J., Frazer K.M., Fleming S.B., Mercer A.A., Robinson A.J.;
RT "Homologs of vascular endothelial growth factor are encoded by the
  poxvirus orf virus.";
RL J. Virol. 68:84-92(1994).
-1- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
CC -1- SUBUNIT: Homodimer; disulfide-linked (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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 DR EMBL; S67520; AAB29220.2; -
 DR HSSP; P15692; 1VP.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 DR Mitogen; Growth factor; Glycoprotein; Signal.
 FT SIGNAL 1 20
 FT CHAIN 21 133
 FT DISULFID 36 78
 FT DISULFID 67 112
 FT DISULFID 71 114
 FT DISULFID 61 61
 FT DISULFID 70 70
 FT CARBOHYD 85 85
 SQ SEQUENCE 133 AA; 14715 MW; 917C0F6883030C39 CRC64;
 Query Match 57.2%; Score 79; DB 1; Length 133;
 Best Local Similarity 61.9%; Pred. No. 1.8e-05;
 Matches 13; Conservative 5; Mismatches 3; Indels 0; Gaps 0;
 OY 1 CNDEGLSVPTESNITMQIM 21
 DB 71 CNDEGLSVPTESNITMQIM 91
 RESULT 14
 PLGF_RAT STANDARD; PRT; 158 AA.
 AC 063334;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Placenta growth factor precursor (PLGF).
 GN PLGF.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OX NCBI_TaxId=10116;
 RN [1]
 RP SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
 RX MEDLINE=95221439; PubMed=7706320;
 RA Disalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
 RA Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;
 RT "Purification and characterization of a naturally occurring vascular
 endothelial growth factor, placenta growth factor heterodimer";
 RL J. Biol. Chem. 270:7717-7723(1995).
 CC -1 FUNCTION: Growth factor active in angiogenesis, and endothelial
 cell growth, stimulating their proliferation and migration. It
 binds to receptor VEGFR-1/Flt1 (By similarity).
 CC -1 SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as
 heterodimer with VEGF/VEGF-A.
 CC -1 SUBCELLULAR LOCATION: Secreted (By similarity).
 CC -1 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 or send an email to licenses@isb-sib.ch).

 CC EMBL; L40030; AA97426.1; -
 DR PIR; A56125; A56125.
 DR HSSP; P49763; 1F2V.
 DR InterPro; IPR000072; PD_growth_factor.

DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 DR Angiogenesis; Mitogen; Growth factor; Glycoprotein; Signal.
 FT SIGNAL 1 23
 FT CHAIN 24 158
 FT DISULFID 48 90
 FT DISULFID 79 125
 FT DISULFID 83 127
 FT DISULFID 73 73
 FT DISULFID 82 82
 FT CARBOHYD 29 29
 FT CARBOHYD 30 30
 FT CARBOHYD 97 97
 SQ SEQUENCE 158 AA; 17681 MW; B477137A82E1589 CRC64;
 Query Match 55.1%; Score 76; DB 1; Length 158;
 Best Local Similarity 53.8%; Pred. No. 6.8e-05;
 Matches 14; Conservative 5; Mismatches 7; Indels 0; Gaps 0;
 OY 1 CNDEGLSVPTESNITMQIMRIKPH 26
 DB 83 CGDEGLHCVALKTANITMQIKIPP 108
 RESULT 15
 PLGF_HUMAN STANDARD; PRT; 221 AA.
 AC P49763; Q07101; Q9BV78; Q9Y6S8;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Placenta growth factor precursor (PLGF).
 GN PGF OR PLGF.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
 OX NCBI_TaxId=9606;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORM PLGF-1).
 RX TISSUE=Placenta;
 CC MEDLINE=92021031; PubMed=1924389;
 RA Maglione D., Guerriero V., Viglietto G., Dell'I-Bovi P., Persico M.G.;
 RT "Isolation of a human placenta cDNA coding for a protein related to
 the vascular permeability factor";
 RL Proc. Natl. Acad. Sci. U.S.A. 88:9267-9271(1991).
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORM PLGF-2).
 RX TISSUE=Placenta;
 CC MEDLINE=94198032; PubMed=8148155;
 RA Hauser S.D., Welch H.A.;
 RT "A heparin-binding form of placenta growth factor (PLGF-2) is
 expressed in human umbilical vein endothelial cells and in
 placenta";
 RL Growth Factors 9:259-268(1993).
 RN [3]
 RP PARTIAL SEQUENCE FROM N.A. (ISOFORM PLGF-2).
 RX MEDLINE=93205407; PubMed=7681160;
 RA Maglione D., Guerriero V., Viglietto G., Ferraro M.G., Aprelikova O.,
 RA Altano K., del Vecchio S., Lei K.-J., Chou J.Y., Persico M.G.;
 RT "Two alternative mRNAs coding for the angiogenic factor, placenta
 growth factor (PLGF), are transcribed from a single gene of
 chromosome 8:925-931(1993).
 RL Oncogene 8:925-931(1993).
 RN [4]
 RP SEQUENCE FROM N.A. (ISOFORM PLGF-3).
 RX TISSUE=Placenta;
 CC MEDLINE=97350807; PubMed=9207183;
 RX Cao Y., Ji W.-R., Qi P., Rosin A., Cao Y.;
 RT "Placenta growth factor: identification and characterization of a
 novel isoform generated by RNA alternative splicing";

RL Biochem. Biophys. Res. Commun. 235:493-498(1997).
 RP [5] SEQUENCE FROM N.A. (ISOFORM PLGF-1).
 RX PubMed=12508121;
 RA Heilig R., Eckenberg R., Petit J.-L., Ponknechten N., Da Silva C.,
 RA Catolico L., Levy M., Barbe V., de Berrardinis V., Ureña-Vidal A.,
 RA Pelletier E., Vico V., Antchouard V., Rowen L., Madan A., Qin S.,
 RA Sun H., Du H., Pepin K., Antchouard V., Rowen L., Madan A., Qin S.,
 RA Bruls T., Jallion O., Friedlander L., Samson G., Brotier P.,
 RA Cure S., Segreus B., Antier F., Samson G., Crespeau H., Abbasi N.,
 RA Alich N., Boscus D., Dickhoff R., Dore M., Dubois I., Friedman C.,
 RA Gouvenoux M., James R., Madan A., Mailey-Bertrada B., Mangenot S.,
 RA Vachette B., Bellemere C., Belser C., Bernad-Gonnet M.,
 RA Vacherie B., Bellemere C., Belser C., Bernad-Gonnet M.,
 RA Barol-Mavel D., Bouvard M., Briez-Silla S., Combette S.,
 RA Dufosse-Laurent V., Ferron C., Lechaplais C., Louesse C., Musclet D.,
 RA Magdelénat G., Pateau E., Petit E., Sitravain-Trukniewicz P., Trybou A.,
 RA Vega-Czarny N., Bataille E., Bluet E., Bordelais I., Dubois M.,
 RA Dumont C., Guerin T., Hatfey S., Hammadi R., Muanga J., Pellouin V.,
 RA Robert D., Wunderle E., Gauguet G., Roy A., Sainte-Marthe L.,
 RA Verrier J., Verdier-Discala C., Hillier L., Fulton L., McPherson J.,
 RA Matuda F., Wilson R., Scarpelli C., Gyapay G., Wincker P., Saurin W.,
 RA Quetier F., Waterston R., Hood L., Weissbach J., 14.";
 RT "The DNA sequence and analysis of human chromosome 14.";
 RL Nature 421:601-607(2003).
 [6]
 RN SEQUENCE FROM N.A. (ISOFORM PLGF-2).
 RP TISSUE=Muscle, and Placenta;
 RX MEDLINE=22388257, PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg K.H., Buetow K.H., Schaefer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Caaveira T.L., Schetz T.E.,
 RA Brownstein M.U., Uesdin T.B., Toshiyuki S., Carninci P., Prange C.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Millhys S.J.,
 RA Bosak S.A., McSwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richardson S., Morley K.C., Hale S.C., Garcia A.M., Gay L.J., Hulik S.W.,
 RA Villalón D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Heaton E., Kettelman M., Madan A., Rodrigues S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shchavchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
 RA Rodriguez A.C., Goughwood J., Schmutz J., Myers R.M.,
 RA Butterfield V.S.N., Krzywinski M.I., Skalek U., Smalls D.E.,
 RA Scherch A., Schein J.E., Jones S.J.M., Maira M.A.,
 RT "Generation and initial analysis of more than 15,000 full-length
 RT human and mouse cDNA sequences.";
 RL Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
 [7]
 RN CHARACTERIZATION, AND SEQUENCE OF 19-24.
 RP MEDLINE=95014370, PubMed=7929268;
 RX Park J.E., Chen H.H., Winer J., Houck K.A., Ferrara N.,
 RA "Placenta growth factor. Potential of vascular endothelial growth
 RT factor bioactivity, in vitro and in vivo, and high affinity binding
 RT to Flt-1 but not to Flk-1/KDR.";
 RL J. Biol. Chem. 269:25646-25654(1994).
 [8]
 RN X-RAY CRYSTALLOGRAPHY (2.0 ANGSTROMS) (ISOFORM PLGF-1).
 RP MEDLINE=21192270, PubMed=11069911;
 RX Iyer S., Leonidas D.D., Swaminathan G.J., Maglione D., Battisti M.,
 RA Tucci M., Persico M.G., Acharya K.R.,
 RT "The crystal structure of human placenta growth factor-1 (PlGF-1), an
 RT angiogenic protein, at 2.0 Å resolution.";
 RL J. Biol. Chem. 276:12153-12161(2001).
 CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
 CC cell growth, stimulating their proliferation and migration. It
 CC binds to receptor VEGFR-1/PLT1. PLGF-2 binds neuropilin-1 and 2 in
 CC a heparin-dependent manner.
 CC -1- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as
 CC heterodimer with VEGF/VEGF-A. PLGF-3 is found both as homodimer
 CC and as monomer.
 CC -1- SUBCELLULAR LOCATION: The three forms are secreted but PLGF-2

CC appears to remain cell attached unless released by heparin.
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing; Named isoforms=3;
 CC Name=PLGF-3;
 CC IsoId=P49763-1; Sequence=Displayed;
 CC Name=PLGF-1; Synonyms=PLGF-131;
 CC IsoId=P49763-2; Sequence=VSP_004644;
 CC Name=PLGF-2; Synonyms=PLGF-152;
 CC IsoId=P49763-3; Sequence=VSP_004644; VSP_004645;
 CC -1- TISSUE SPECIFICITY: While the three forms are present in most
 CC placental tissues, the PLGF-2 is specific to early (8 week)
 CC pregnancy and only PLGF-1 is found in the colon and mammary
 CC carcinomas.
 CC -1- DOMAIN: PLGF-2 contains a basic insert which acts as a cell
 CC retention signal.
 CC -1- PTM: N-GLYCOSYLATED.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 CC -----
 CC EMBL: X54936; CAA38698.1; -;
 CC EMBL: S72960; AAB30462.2; -;
 CC EMBL: S57152; AAB25832.2; ALT_SEQ.
 CC EMBL: AC006530; AAD30179.1; -;
 CC EMBL: BC001422; AAH01422.1; -;
 CC EMBL: BC007789; AAH07789.1; -;
 CC EMBL: BC007255; AAH07255.1; -;
 CC EMBL: A18411; CAA01393.1; -;
 CC PIR: A41236; A41236.
 CC PDB: 1PZV; 09-MAY-01.
 CC Genew; HGNC:8893; PGF.
 CC MIM: 601121; -;
 CC GO: GO:0008083; F: growth factor activity; TAS.
 CC GO: GO:0007267; P: cell-cell signaling; TAS.
 CC GO: GO:0008284; P: positive regulation of cell proliferation; TAS.
 CC GO: GO:0007165; P: signal transduction; TAS.
 CC InterPro: IPR000072; PD_growth_factor.
 CC Pfam: PF00341; PDGF_1.
 CC ProDom: PD001629; PD_growth_factor; 1.
 CC SMART: SM00141; PDGF_1.
 CC PROSITE: PS00249; PDGF_1; 1.
 CC PROSITE: PS0278; PDGF_2; 1.
 CC DR Angiogenesis; Mitogen; Growth factor; Glycoprotein; Signal;
 CC KW Heparin-binding; Alternative splicing; 3D-structure.
 CC SIGNAL 1 18
 CC CHAIN 1 221
 CC DOMAIN 193 213 PLACENTA GROWTH FACTOR.
 CC DISULFID 52 94 HEPARIN-BINDING (PROBABLE).
 CC DISULFID 83 128
 CC DISULFID 87 130
 CC DISULFID 77 77
 CC DISULFID 86 86 INTERCHAIN.
 CC CARBOHYD 33 33 N-LINKED (GLCNAC. . .) (POTENTIAL).
 CC CARBOHYD 101 101 N-LINKED (GLCNAC. . .) (POTENTIAL).
 CC FT Missing (in isoform PLGF-1 and isoform
 CC FT PLGF-2)
 CC FT /FTId=VSP_004644.
 CC FT R->RRRPPKGRGRKRRKPPDCHL (in isoform
 CC FT PLGF-2).
 CC FT /FTId=VSP_004645.
 CC FT N->D (in REF. 2).
 CC STRAND 40 41
 CC STRAND 43 50
 CC STRAND 51 51
 CC STRAND 53 60
 CC TURN 61 61
 CC HELIX 62 64

FT	STRAND	73	74
FT	STRAND	77	84
FT	STRAND	86	86
FT	TURN	90	91
FT	STRAND	92	108
FT	TURN	111	112
FT	STRAND	116	132
SQ	SEQUENCE	221 AA;	24788 MW; D364C6A73C1C6987 CRC64;

Query Match 54.3%; Score 75; DB 1; Length 221;
 Best Local Similarity 50.0%; Pred. No. 0.00015;
 Matches 12; Conservative 6; Mismatches 6; Indels 0; Gaps 0;

Oy	1	CNDEGLASVPTESNITMOMIRIK	24
Db	87	CGDENLHCVPVETANVTMOLEKIR	110

Search completed: January 30, 2004, 11:41:06
 Job time : 7 secs

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:33:38 ; Search time 26.933 seconds
(without alignments)
249.110 Million cell updates/sec

Title: US-09-266-543-7
Perfect score: 138
Sequence: 1 CNDEGLSVPTESNITQIMRIKPH 26

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues
Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

SPTREMBL_23:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_ricent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriaph:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	133	96.4	126	6	Q9BDP7
2	133	96.4	191	4	Q96KJ0
3	133	96.4	191	4	Q96L82
4	133	96.4	191	4	Q95N85
5	127	92.0	65	6	Q8M1N0
6	127	92.0	109	6	Q8M1N1
7	127	92.0	124	6	Q9GK00
8	127	92.0	124	6	Q8SP29
9	127	92.0	184	6	Q8HY70
10	127	92.0	189	6	Q95LQ4
11	122	88.4	127	6	Q8WMQ4
12	122	88.4	190	11	Q9QX39
13	121	87.7	78	6	Q9N1S2
14	121	87.7	118	6	Q9M2B1
15	121	87.7	123	6	Q9N1S1
16	121	87.7	128	6	Q8SP15

17	121	87.7	131	6	Q8MJ86	Q8MJ86 capreolus c
18	121	87.7	190	6	Q77643	Q77643 ovis aries
19	121	87.7	190	11	Q91ZE1	Q91ZE1 ractus norv
20	120	87.0	68	6	Q97500	Q97500 oryctolagus
21	120	87.0	75	6	Q18843	Q18843 oryctolagus
22	116	84.1	142	11	Q9ER16	Q9ER16 mesocricetu
23	109	79.0	148	13	Q42571	Q42571 xenopus lae
24	109	79.0	194	13	Q42572	Q42572 xenopus lae
25	92	66.7	132	12	Q9YMF3	Q9YMF3 orf virus
26	92	66.7	144	13	Q73822	Q73822 brachydanio
27	92	66.7	188	13	Q73682	Q73682 brachydanio
28	87	63.0	141	11	Q70123	Q70123 mus musculu
29	83	60.1	110	11	Q88911	Q88911 ractus norv
30	83	60.1	113	6	Q8M120	Q8M120 ovis aries
31	67	48.6	188	4	Q8TEV2	Q8TEV2 homo sapien
32	65	47.1	108	6	Q8HY75	Q8HY75 ovis aries
33	64	46.4	146	13	Q90X23	Q90X23 boehrops ja
34	60	43.5	146	13	Q90X24	Q90X24 boehrops in
35	51	37.0	385	16	Q8X4W2	Q8X4W2 escherichia
36	51	37.0	385	16	Q8CVN7	Q8CVN7 escherichia
37	51	37.0	855	15	Q73344	Q73344 human immun
38	50.5	36.6	292	11	Q8CD60	Q8CD60 mus musculu
39	50	36.2	830	3	Q9Y7T4	Q9Y7T4 schizosacch
40	49	35.5	308	10	Q9T0G3	Q9T0G3 arabidopsis
41	49	35.5	364	10	Q9LV67	Q9LV67 arabidopsis
42	49	35.5	397	10	Q8LCQ2	Q8LCQ2 arabidopsis
43	47.5	34.4	314	5	Q8MP89	Q8MP89 taenia soli
44	47	34.1	137	10	Q8LD26	Q8LD26 arabidopsis
45	47	34.1	140	10	Q9CTJ7	Q9CTJ7 arabidopsis

ALIGNMENTS

RESULT 1
Q9BDP7 PRELIMINARY; PRT; 126 AA.
ID Q9BDP7
AC Q9BDP7
DT 01-JUN-2001 (TREMBLrel. 17, Last sequence update)
DT 01-JUN-2001 (TREMBLrel. 17, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
OS Macaca mulatta (rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecoidea; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP SEQUENCE FROM N.A.
RA Hazard T.M., Nayak N.R., Jia Y., Stouffer R.L.;
RT "Rhesus macaque VEGF mRNA sequence."
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF393737; AAK26379.1; -.
DR HSSP; P49763; 1PZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1; PD_growth_factor.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 126
SQ SEQUENCE 126 AA; 14599 MW; 1175F2386A883BCF CRC64;

Query Match 96.4%; Score 133; DB 6; Length 126;
Best Local Similarity 96.2%; Pred. No. 2e-13;
Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSVPTESNITQIMRIKPH 26
DB 80 CNDEGLSVPTESNITQIMRIKPH 105

RESULT 2

Q96KJ0 PRELIMINARY; PRT; 191 AA.
 ID 096KJ0
 AC 096KJ0 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor 15b.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.
 NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC Tissue=Kidney;
 RA Sugiono M., Winkler M., Gillatt D., Harper S.J., Bates D.O.;
 RT "A new isoform of vascular endothelial growth factor mRNA is down-regulated in renal tumors."
 RL (in) Unknown A. (eds.);
 RL Proceedings of the 7th World Congress on Microcirculation, pp.3-3,
 RL Sydney, Australia (2001).
 DR EMBL; AF430806; AAL27435.1;
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22358 MW; D25243B540AC79BD CRC64;

Query Match 96.4%; Score 133; DB 4; Length 191;
 Best Local Similarity 96.2%; Pred. No. 3,2e-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
 DB 87 CNDGLECPTEESNITWQIMRIKPH 112

RESULT 3

Q96L82 PRELIMINARY; PRT; 191 AA.
 ID 096L82
 AC 096L82;
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
 DE Vascular endothelial growth factor.
 GN VEGF.
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.
 NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Liu J., Peng X., Yuan J., Qiang B.;
 RT "Cloning of vascular endothelial growth factor (VEGF) cDNA."
 RL Submitted (JUN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AY047581; AAK55847.1;
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 96.4%; Score 133; DB 4; Length 191;
 Best Local Similarity 96.2%; Pred. No. 3,2e-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
 DB 87 CNDGLECPTEESNITWQIMRIKPH 112

RESULT 4

Q95NE5 PRELIMINARY; PRT; 191 AA.
 ID 095NE5
 AC 095NE5
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
 DE SIVVEGP165.
 GN SIVVEGP165.
 OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea; Macaca.
 NCBI_TaxID=9541;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=96245208; PubMed=8641836;
 RA Shima D.T., Gougos A., Miller J.W., Tolentino M., Robinson G.,
 RA Adams A.P., D'Amore P.A.;
 RT "Cloning and mRNA expression of vascular endothelial growth factor in ischemic retina of Macaca fascicularis."
 RL Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
 DR EMBL; S82167; AAB47118.1;
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 96.4%; Score 133; DB 6; Length 191;
 Best Local Similarity 96.2%; Pred. No. 3,2e-13;
 Matches 25; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
 DB 87 CNDGLECPTEESNITWQIMRIKPH 112

RESULT 5

Q8MIN0 PRELIMINARY; PRT; 65 AA.
 ID 08MIN0
 AC 08MIN0;
 DT 01-OCT-2002 (TREMBLrel. 22, Created)
 DT 01-OCT-2002 (TREMBLrel. 22, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor 121 (Fragment).
 OS Capra hircus (Goat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Caprinae; Capra.
 NCBI_TaxID=9925;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC Tissue=Corpus luteum;
 RA Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.;
 RT "Changes of messenger RNA encoding Vascular Endothelial Growth Factor and its Receptors during the Development and Maintenance of Caprine Corpus lutea."
 RL Submitted (MAY-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AY114353; AAM76674.1;
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON TER
 SQ SEQUENCE 65 AA; 7562 MW; BAA35384364B05E3 CRC64;

Query Match 92.0%; Score 127; DB 6; Length 65;
 Best Local Similarity 92.3%; Pred. No. 8,8e-13;
 Matches 24; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTESNITMQRKPH 26
 |||||
 Db 5 CNDGLESVPTESNITMQRKPH 30

RESULT 6

Q8MINI PRELIMINARY; PRT; 109 AA.
 AC Q8MINI;
 DT 01-OCT-2002 (TREMBLrel. 22, Created)
 DT 01-OCT-2002 (TREMBLrel. 22, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor 165 (Fragment).
 OS Capra hircus (Goat).
 CC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidea;
 CC Bovidae; Caprinae; Capra.
 NCBI_TaxID=9925;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC Tissue=Corpus luteum;
 RA Kavate N., Teuji M., Tamada H., Inaba T., Sawada T.;
 RT "Changes of Messenger RNAs Encoding Vascular Endothelial Growth Factor
 and Its Receptors during the Development and Maintenance of Caprine
 Corpora Lutea."
 RL Submitted (May-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AY14352; AAM76673.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS50278; PDGF_2; 1.
 DR NON_TER 1
 FT SEQUENCE 109 AA; 12656 MW; 912657251A37E023 CRC64;

Query Match 92.0%; Score 127; DB 6; Length 109;
 Best Local Similarity 92.3%; Pred. No. 1.6e-12;
 Matches 24; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTESNITMQRKPH 26
 |||||
 Db 5 CNDGLESVPTESNITMQRKPH 30

RESULT 7

Q9GK00 PRELIMINARY; PRT; 124 AA.
 AC Q9GK00;
 DT 01-MAR-2001 (TREMBLrel. 16, Created)
 DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 GN VEGF.
 OS Callithrix jacchus (Common marmoset).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Callitrix.
 NCBI_TaxID=9483;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC Tissue=Oviduct;
 RA Welter H., Gabler C., Binspanier R.;
 RT "growth factor expression in marmoset monkey oviducts."
 RL Submitted (May-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AJ278192; CAC19923.1; -.
 DR HSSP; P49763; 1FZV.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 DR NON_TER 1
 FT SEQUENCE 124 AA; 21608 MW; BAD47CCB0C146F22 CRC64;

FT NON TER 124 124
 SQ SEQUENCE 124 AA; 14548 MW; AA6F8CAF6FOA0CC CRC64;

Query Match 92.0%; Score 127; DB 6; Length 124;
 Best Local Similarity 92.3%; Pred. No. 1.8e-12;
 Matches 24; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTESNITMQRKPH 26
 |||||
 Db 47 CNDGLESVPTESNITMQRKPH 72

RESULT 8

Q8SP29 PRELIMINARY; PRT; 124 AA.
 AC Q8SP29;
 DT 01-JUN-2002 (TREMBLrel. 21, Created)
 DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)
 DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 OS Sus scrofa (Pig).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC Tissue=Myocardium;
 RA Yuan H., Li J.;
 RT "The expression of VEGF in porcine collateral-dependent myocardial by
 exercise training."
 RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF41807; AAL85286.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 DR NON_TER 124
 FT SEQUENCE 124 AA; 14552 MW; 2E1C1A009E67C9C9 CRC64;

Query Match 92.0%; Score 127; DB 6; Length 124;
 Best Local Similarity 92.3%; Pred. No. 1.8e-12;
 Matches 24; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTESNITMQRKPH 26
 |||||
 Db 58 CNDGLESVPTESNITMQRKPH 83

RESULT 9

Q8HY70 PRELIMINARY; PRT; 184 AA.
 AC Q8HY70;
 DT 01-MAR-2003 (TREMBLrel. 23, Created)
 DT 01-MAR-2003 (TREMBLrel. 23, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor A (Fragment).
 OS Mus musculus (House mouse).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Carnivora; Placentalia; Muridae; Murinae;
 CC Mus.
 NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Lopes F.L., Demarais J.A., Gevery N.Y., Ledoux S., Murphy B.D.;
 RT "Expression of VEGF isoforms and receptors during implantation in
 Mus musculus."
 RL Submitted (OCT-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AY158156; AAN76365.1; -.
 DR NON_TER 184
 FT SEQUENCE 184 AA; 21608 MW; BAD47CCB0C146F22 CRC64;

Query Match 92.0%; Score 127; DB 6; Length 184;
 Best Local Similarity 92.3%; Pred. No. 2.8e-12;
 Matches 24; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEESNITWQIMRIKPH 26
 DB 86 CNDGELCEVPTSEFNITWQIMRIKPH 111

RESULT 10

O95LQ4 PRELIMINARY; PRT; 189 AA.
 AC O95LQ4;
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor.
 OS Felis silvestris catus (Cat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felis.
 OX NCBI_TaxID=9685;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Koga L., Kobayashi Y., Yazawa M., Masuda K., Ohno K., Tsujimoto H.;
 RT "Nucleotide sequence and expression of the feline vascular endothelial
 growth factor.";
 RL Submitted (SEP-2001) to the EMBL/Genbank/DBJ databases.
 DR EMBL; AB071947; BAB6520.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 SQ SEQUENCE 189 AA; 22133 MW; C1B4646759AB3FD6 CRC64;

Query Match 92.0%; Score 127; DB 6; Length 189;
 Best Local Similarity 92.3%; Pred. No. 2.9e-12;
 Matches 24; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEESNITWQIMRIKPH 26
 DB 86 CNDGELCEVPTSEFNITWQIMRIKPH 111

RESULT 11

O8WMQ4 PRELIMINARY; PRT; 127 AA.
 AC O8WMQ4;
 DT 01-MAR-2002 (TREMBLrel. 20, Created)
 DT 01-MAR-2002 (TREMBLrel. 20, Last sequence update)
 DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 OX NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA TISSUE=Myocardium;
 RA Yuan H., Li J.;
 RT "The expression of VEGF in porcine collateral-dependent myocardial by
 exercise training.";
 RL Submitted (JAN-2002) to the EMBL/Genbank/DBJ databases.
 DR EMBL; AY072734; AAL68393.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 FT NON_TER 127
 SQ SEQUENCE 127 AA; 14920 MW; 5AB63F01AEB29ED CRC64;

Query Match 88.4%; Score 122; DB 6; Length 127;
 Best Local Similarity 88.5%; Pred. No. 1.2e-11;
 Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEESNITWQIMRIKPH 26
 DB 44 CNDGELCEVPTSEFNITWQIMRIKPH 69

RESULT 12

O9QX39 PRELIMINARY; PRT; 190 AA.
 AC O9QX39;
 DT 01-MAY-2000 (TREMBLrel. 13, Created)
 DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor.
 GN Spilax leucodon ehrenbergi (Ehrenberg's mole rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spilacinae;
 OC Nannospalax.
 OX NCBI_TaxID=30637;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.;
 RT "Adaptive hypoxic tolerance in the subterranean mole rat Spilax
 ehrenbergi: the role of vascular endothelial growth factor.";
 RL FEBS Lett. 452:133-140(1999).
 DR EMBL; AF186236; AAD56245.1; -.
 DR HSSP; P49763; IFZV.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS0278; PDGF_2; 1.
 SQ SEQUENCE 190 AA; 22488 MW; 2228383BC65F0BFE CRC64;

Query Match 88.4%; Score 122; DB 11; Length 190;
 Best Local Similarity 88.5%; Pred. No. 1.9e-11;
 Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEESNITWQIMRIKPH 26
 DB 86 CNDGELCEVPTSEFNITWQIMRIKPH 111

RESULT 13

O9NIS2 PRELIMINARY; PRT; 78 AA.
 AC O9NIS2;
 DT 01-OCT-2000 (TREMBLrel. 15, Created)
 DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor isoform 121 (Fragment).
 GN VEGF.
 OS Capreolus capreolus (Roe deer).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidae;
 OC Cervidae; Odocoileinae; Capreolus.
 OX NCBI_TaxID=9858;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA TISSUE=Testis;
 RL MEDLINE=20532861; PubMed=11078967;
 RA Waegner A., Blotner S., Goritz F., Fickel J.;
 RT "Detection of growth factors in the testis of roe deer (Capreolus
 capreolus).";
 RL Anim. Reprod. Sci. 64:65-75(2000).
 DR EMBL; AF152593; AAF73232.1; -.

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DR HSP; P49763; 1FZV.
DR InterPro; IPR002400; GF_cysknoc.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 78
SQ SEQUENCE 78 AA; 9131 MW; 7BE20DDFPC17847C CRC64;

Query Match      87.7%; Score 121; DB 6; Length 78;
Best Local Similarity 88.5%; Pred. No. 1e-11;
Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
DB 25 CNDSELECVPTSEFNITWQIMRIKPH 50

RESULT 14
Q9MZB1 PRELIMINARY; PRT; 118 AA.
AC Q9MZB1;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
GN VEGF.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Placental artery endothelium;
RA Zheng J., Tsol S.C., Magness R.R.;
RT "Growth factor expression in ovine fetal placental artery endothelial
RT cells."
RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF250375; AAF75258.1;
DR HSP; P49763; 1FZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 78
SQ SEQUENCE 118 AA; 13931 MW; 757DC53A56378A6 CRC64;

Query Match      87.7%; Score 121; DB 6; Length 118;
Best Local Similarity 88.5%; Pred. No. 1.6e-11;
Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
DB 58 CNDSELECVPTSEFNITWQIMRIKPH 83

RESULT 15
Q9N1S1 PRELIMINARY; PRT; 123 AA.
AC Q9N1S1;
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor isoform 165 (Fragment).
GN VEGF.
OS Capreolus capreolus (Roe deer).

```

```

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervidae;
OC Cervidae; Odocoileinae; Capreolus.
OX NCBI_TaxID=99858;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Testis;
RX MEDLINE=20532861; PubMed=11078967;
RA Wagener A., Biotner S., Goritz P., Fickel J.;
RT "Detection of growth factors in the testis of roe deer (Capreolus
RT capreolus)."
RT Anim. Reprod. Sci. 64:65-75 (2000).
DR EMBL; AF152594; AAF73233.1;
DR HSP; P49763; 1FZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 123
SQ SEQUENCE 123 AA; 14354 MW; 0A756F541054CE1 CRC64;

Query Match      87.7%; Score 121; DB 6; Length 123;
Best Local Similarity 88.5%; Pred. No. 1.7e-11;
Matches 23; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEESNITWQIMRIKPH 26
DB 25 CNDSELECVPTSEFNITWQIMRIKPH 50

```

Search completed: January 30, 2004, 11:44:41
 Job time : 26.933 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:08 ; Search time 17.8 Seconds
(without alignments)
115.924 Million cell updates/sec

Title: US-09-266-543-8
Perfect score: 71
Sequence: 1 CNDEGLSVPTEB 13

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues
Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A.GeneSeq.19Jun03:*

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- 4: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA1983.DAT:*
- 5: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA1984.DAT:*
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- 12: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA1991.DAT:*
- 13: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA1992.DAT:*
- 14: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA1993.DAT:*
- 15: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA1994.DAT:*
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- 18: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA1997.DAT:*
- 19: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA1998.DAT:*
- 20: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA1999.DAT:*
- 21: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA2000.DAT:*
- 22: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA2001.DAT:*
- 23: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA2002.DAT:*
- 24: /SIDS1/gcgdata/geneSeq/geneSeq-emb1/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	71	100.0	13	21	AA18549
2	71	100.0	26	21	AA18548
3	66	93.0	65	17	AA94035
4	66	93.0	66	14	AA842609
5	66	93.0	94	22	AAU04521
6	66	93.0	101	24	AAE32330
7	66	93.0	102	22	AAU08484
8	66	93.0	105	21	AAE53387
9	66	93.0	105	22	AAU08407

10	66	93.0	105	22	AAU08411	Polypeptide encode
11	66	93.0	105	22	AAU08467	Polypeptide encode
12	66	93.0	105	22	AAU08473	Polypeptide encode
13	66	93.0	105	22	AAU08475	Polypeptide encode
14	66	93.0	105	22	AAU08477	Polypeptide encode
15	66	93.0	110	21	AAE69417	Amino acid sequenc
16	66	93.0	110	21	AAE83038	Human vascular end
17	66	93.0	110	22	AAE79276	Primary sequence o
18	66	93.0	110	22	AAE50436	Human VEGF110. Ho
19	66	93.0	110	23	ABE76304	Human VEGF110. Ho
20	66	93.0	121	12	AAE11385	Human VEGF121. H
21	66	93.0	121	14	AAE42607	Human VEGF121. H
22	66	93.0	121	17	AAE09091	Human VEGF121. H
23	66	93.0	121	17	AAE03677	Vascular permeabil
24	66	93.0	121	17	AAE06043	Vascular permeabil
25	66	93.0	121	17	AAE93977	Vascular permeabil
26	66	93.0	121	19	AAE40597	VEGF/VEP121. Homo
27	66	93.0	121	20	AAE23943	Amino acid sequenc
28	66	93.0	121	20	AAE08278	Human growth facto
29	66	93.0	121	21	AAE99848	Human VEGF121. H
30	66	93.0	121	22	AAE50428	Mature human vascu
31	66	93.0	121	24	ABE84619	Human VEGF121. mono
32	66	93.0	121	24	AAE32329	Human VEGF121. mono
33	66	93.0	126	22	AAU08403	Polypeptide encode
34	66	93.0	127	22	AAU08405	Polypeptide encode
35	66	93.0	127	22	AAU08423	Polypeptide encode
36	66	93.0	127	22	AAU08427	Polypeptide encode
37	66	93.0	128	22	AAU08415	Polypeptide encode
38	66	93.0	128	22	AAU08419	Polypeptide encode
39	66	93.0	129	22	AAU08431	Polypeptide encode
40	66	93.0	129	22	AAU08435	Polypeptide encode
41	66	93.0	141	24	ABE71756	Human VEGF121. H
42	66	93.0	145	19	AAE56693	Vascular endotheli
43	66	93.0	145	20	AAE08279	Human growth facto
44	66	93.0	145	21	AAE69413	Amino acid sequenc
45	66	93.0	145	21	AAE83034	Human VEGF121. H

ALIGNMENTS

RESULT 1	AA18549	AA18549 standard; peptide; 13 AA.
ID	AA18549	
AC	AA18549;	
DT	15-JAN-2001 (first entry)	
DE	Immunogenic peptide fragment derived from FGF and/or VEGF.	
XX	Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer;	
XX	vascular endothelial growth factor; hyperproliferative disorder;	
XX	haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis;	
XX	telangiectasia; psoriasis; scleroderma; pyogenic granuloma;	
XX	myocardial angiogenesis; Crohn's disease; plaque neovascularisation;	
XX	arteriovenous malformation; corneal disease; rubecosis;	
XX	neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia;	
XX	arthritis; diabetic neovascularisation; macular degeneration;	
XX	wound healing; peptic ulcer; Helicobacter related disease; fracture;	
XX	keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;	
XX	placentation; cat scratch fever.	
OS	Unidentified.	
XX		
PN	WO200053219-A2.	
XX		
PD	14-SEP-2000.	
XX		
PF	10-MAR-2000; 2000WO-US06320.	
XX		
PR	11-MAR-1999; 99US-0266543.	
XX		

PA (ENTR-) ENTREMED INC.
 XX Holaday JW, Ruiz A, Madsen J;
 XX WPI; 2000-594263/56.
 DR
 XX An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 PT of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 XX Claim 13; Page 28; 95pp; English.
 PS
 XX AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubecosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentalation and cat scratch fever.
 CC
 XX Sequence 13 AA;
 SQ
 Query Match 100.0%; Score 71; DB 21; Length 13;
 Best Local Similarity 100.0%; Pred. No. 1.2e-05;
 Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 CNDGLESVPTEE 13
 DB 1 CNDGLESVPTEE 13
 RESULT 2
 AAB18548
 ID AAB18548 standard; peptide; 26 AA.
 XX
 AC AAB18548;
 XX
 DT 15-JAN-2001 (first entry)
 XX
 DE Immunogenic peptide fragment derived from FGF and/or VEGF.
 XX
 KW Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer;
 KW vascular endothelial growth factor; hyperproliferative disorder;
 KW haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis;
 KW telangiectasia; psoriasis; scleroderma; pyogenic granuloma;
 KW myocardial angiogenesis; Crohn's disease; plaque neovascularisation;
 KW arteriovenous malformation; corneal disease; rubecosis;
 KW neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia;
 KW arthritis; diabetic neovascularisation; macular degeneration;
 KW wound healing; peptic ulcer; Helicobacter related disease; fracture;
 KW keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;
 KW placentalation; cat scratch fever.
 KW
 XX unidentified.
 XX
 OS WO200053219-A2.
 XX
 PN 14-SEP-2000.
 XX
 PD 10-MAR-2000; 2000WO-US06320.
 XX
 PF 11-MAR-1999; 99US-0266543.
 XX
 PR (ENTR-) ENTREMED INC.
 XX
 PA Holaday JW, Ruiz A, Madsen J;
 XX

DR WPI; 2000-594263/56.
 XX
 XX An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 PT of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 XX Claim 13; Page 28; 95pp; English.
 PS
 XX AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubecosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentalation and cat scratch fever.
 CC
 XX Sequence 26 AA;
 SQ
 Query Match 100.0%; Score 71; DB 21; Length 26;
 Best Local Similarity 100.0%; Pred. No. 2.5e-05;
 Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 CNDGLESVPTEE 13
 DB 1 CNDGLESVPTEE 13
 RESULT 3
 AAR94035
 ID AAR94035 standard; Protein; 65 AA.
 XX
 AC AAR94035;
 XX
 DT 10-OCT-1996 (first entry)
 XX
 DE VEGF exon III.
 XX
 KW Vascular endothelial growth factor; VEGF; human; conjugate; tumour; iris;
 KW proliferation inhibition; VEGF-mediated pathophysiological condition;
 KW dermatological disorder; VEGF receptor; vascular proliferation; retina;
 KW ophthalmic disorder; hyperproliferating blood vessel; therapy; psoriasis;
 KW conjunctiva; vitreous humour; rheumatoid arthritis; skin cancer;
 KW varicose veins; gene therapy.
 KW
 XX Homo sapiens.
 XX
 OS WO9606641-A1.
 XX
 PN 07-MAR-1996.
 XX
 PD 29-AUG-1995; 95WO-US10973.
 XX
 PE 16-MAY-1995; 95US-0441979.
 XX
 PR 29-AUG-1994; 94US-0297961.
 XX
 PR (PRIZ-) PRIZM PHARM INC.
 XX
 PA Fleurybaatj GA, Freund E, Houston LL, Nova MP, Sosnowski BA;
 PI Victor KD;
 XX
 DR WPI; 1996-160151/16.
 DR N-PSDB; AAT17743.
 XX
 PT Vascular endothelial cell growth factor (VEGF) conjugates - having
 PT VEGF linked to targeted agent, used for inhibiting proliferation of
 PT cells, e.g. for gene therapy
 XX

PS Disclosure; Page 119; 193pp; English.

XX
XX AAR94033-R94038, AAR94041, AAR94042 and AAR94052 represent vascular
endothelial growth factors (VEGF) exons. This sequence represents exon
III. These sequences were used in VEGF conjugates of the invention. In
the conjugates, VEGF (or fragments of it) are linked to a targeted agent
(this can be via a linker sequence), so that the conjugate binds to a
VEGF receptor. Cys-modified forms of VEGF are particularly suitable for
chemical conjugation to linkers and targeted agents. The conjugates are
used for inhibiting proliferation of cells bearing VEGF receptors. They
can be used for treating a VEGF-mediated pathophysiological condition,
including dermatological disorders with underlying vascular
proliferation, solid tumours or an ophthalmic disorder of
hyperproliferating blood vessels of the retina, iris, conjunctiva or
vitreous humour. The conjugates can also be used for treating
psoriasis, rheumatoid arthritis, skin cancers and other tumours, or
varicose veins. They are also suitable for use in gene therapy.

XX
SQ Sequence 65 AA;

Query Match 93.0%; Score 66; DB 17; Length 65;
Best Local Similarity 92.3%; Pred. No. 0.00051;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGEGESVPTTE 13
|||||
DB 47 CNDGEGECVPTTE 59

RESULT 4
AAR42609
ID AAR42609 standard; Protein; 66 AA.

XX
AC AAR42609;

XX
DT 25-MAR-2003 (updated)

XX
DT 28-OCT-1993 (first entry)

XX
DE Encoded by human VEGF-165 exon III.

XX
KW Angiogenesis; wound healing; mitogen; vascular endothelial cells;
KW Vascular Endothelial Cell Growth Factor; hVEGF-165; hVEGF-121;
KW alternative RNA splicing.

XX
OS Homo sapiens.

XX
FN US5219739-A.

XX
PD 15-JUN-1993.

XX
PF 27-JUL-1990; 90US-0559041.

XX
PR 27-JUL-1989; 89US-0387545.

XX
PR 14-DEC-1989; 89US-0450883.

XX
PR 27-JUL-1990; 90US-0559041.

XX
PA (SCTO-) SCTOS NOVA INC.

XX
PI Abraham JA, Fiddes JC, Mitchell RL, Fischer EG;

XX
DR WPI; 1993-205302/25.

XX
DR N-PSDB; AAQ49605.

PT Isolated DNA sequences, expression vectors and transformant cells
PT - used for large scale prodn. of vascular endothelial cell growth
PT factor, for treating wounds in which neo-vascularisation is
PT required

XX
PS Claim 8; Fig 8; 40pp; English.

XX
CC The sequences of the 8 possible exons encoding human vascular
endothelial cell growth factor, together with contiguous splice
CC junctions, were obtained from overlapping genomic inserts. A method

CC for producing VEGF is claimed comprising culturing mammalian cells
CC transformed with an expression vector containing exons I-V and
CC VIII. See AAQ4261 for exon I and AAQ49604-Q49610 for exons II-VIII.
CC (updated on 25-MAR-2003 to correct PF field.)

XX
SQ Sequence 66 AA;

Query Match 93.0%; Score 66; DB 14; Length 66;
Best Local Similarity 92.3%; Pred. No. 0.00052;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGEGESVPTTE 13
|||||
DB 48 CNDGEGECVPTTE 60

RESULT 5
AAU04521
ID AAU04521 standard; protein; 94 AA.

XX
AC AAU04521;

XX
DT 26-SEP-2001 (first entry)

XX
DE Human VEGF amino acids Lys42-Asp135.

XX
KW Human; VEGF; vascular endothelial growth factor; angiogenesis;
KW neovascularisation; lymphangiogenesis; psoriasis; tumour;
KW diabetes induced neovascular sequelae; rheumatoid arthritis;
KW diabetic retinopathy; chronic inflammation.

XX
OS Homo sapiens.

XX
FN WO200152875-A1.

XX
PD 26-JUL-2001.

XX
PF 18-JAN-2001; 2001WO-US01533.

XX
PR 18-JAN-2000; 2000US-0176293.

XX
PR 16-MAY-2000; 2000US-0204590.

XX
PA (LUDW-) LUDWIG INST CANCER RES.

XX
PI Achen MG, Hughes RA, Stacker S, Cendron A;

XX
DR WPI; 2001-442248/47.

XX
PT Novel monomeric monocyclic peptide, used to interfere with
PT angiogenesis, or lymphangiogenesis, is produced by cyclising a peptide
PT loop fragment from an exposed loop of a growth factor protein by
PT oxidizing the cysteine residues -

XX
XX Example 1; Page 90; 102pp; English.

XX
CC The sequence represents Human VEGF (vascular endothelial growth factor)
CC amino acids Lys42-Asp135. The sequence is used in a method of producing
CC a monomeric monocyclic peptide by a measuring beta-beta carbon separation
CC distances on opposite antiparallel strands of a peptide loop fragment
CC from an exposed loop of a growth factor protein and cyclising the peptide
CC by oxidising the cysteine residues. The monocyclic peptides, dimeric
CC bicyclic peptides (comprising 2 linked monocyclic peptides) and a cyclic
CC peptide with at least one amino acid deleted prior to cyclisation are
CC used to interfere with angiogenesis, neovascularisation or
CC lymphangiogenesis in a mammal with a condition characterised by
CC angiogenesis, neovascularisation or lymphangiogenesis. The condition is
CC diabetic retinopathy, psoriasis, arthropathy, hemangioma, vascularised
CC malignant or benign tumour, post-recovery cerebrovascular accident,
CC post-angioplasty restenosis, head, heat or cold trauma, substance-induced
CC neovascularisation of the liver, excessive hormone-related angiogenic
CC dysfunction, diabetes induced neovascular sequelae, hypertension induced
CC neovascular sequelae, or chronic liver infection. The peptides are also
CC used to modulate vascular permeability in a mammal (the mammal has a

CC condition characterised by fluid accumulation in peripheral limbs or in
 CC lungs, peritoneal cavity, pleura, or brain. The peptides are used to
 CC image blood vessels and lymphatic vasculature. The monomeric and bicyclic
 CC peptides are used to interfere with at least one biological activity
 CC induced by VEGF, VEGF-C or -D and are also used in combination with an
 CC anti-inflammatory agent, to treat a chronic inflammation, especially
 CC rheumatoid arthritis, psoriasis and diabetic retinopathy.

SO Sequence 94 AA;

Query Match 93.0%; Score 66; DB 22; Length 94;

Best Local Similarity 92.3%; Pred. No. 0.00077;

Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEE 13

DB 46 CNDGELCVPTEE 58

RESULT 6

AAE32330 AAE32330 standard; Protein; 101 AA.

AC AAE32330;

DT 24-MAR-2003 (first entry)

DE Human VEGF-A receptor binding domain.

KW Vascular endothelial growth factor; VEGF; angiogenesis; wound healing;
 KW bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer;
 KW lesion; injury; trauma; periodontal condition; protein therapy; human.

OS Homo sapiens.

PN WO200283851-A2.

PD 24-OCT-2002.

PE 10-APR-2002; 2002WO-US11406.

PR 10-APR-2001; 2001US-0832355.

PA (GENV-) GENVEC INC.

PI Kovesdi I, Kessler PD;

PT WPI; 2003-075536/07.

PT New fusion protein comprising a non-heparin-binding vascular
 PT endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide
 PT portion, useful for promoting angiogenesis and/or bone growth in
 PT mammals -

PS Disclosure; Page 118-119; 191pp; English.

CC The invention relates to a fusion protein comprising non-heparin binding
 CC vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF
 CC peptide portion useful for promoting angiogenesis and/or bone growth in
 CC mammalian host. The fusion protein is useful for promoting angiogenesis,
 CC wound healing and bone growth. Compositions containing bone growth
 CC promoting fusion protein can be used to treat osteoporosis, rheumatoid
 CC or osteoarthritis, to improve poor bone healing, to promote implant
 CC integration and function of artificial joints and to facilitate bone
 CC reconstruction. They can also be used to treat e.g. ulcers, lesions,
 CC injuries, burns, trauma, periodontal conditions, lacerations and other
 CC conditions. The invention is also useful in protein therapy. The present
 CC sequence is human VEGF-A receptor binding domain.

SO Sequence 101 AA;

Query Match 93.0%; Score 66; DB 24; Length 101;

Best Local Similarity 92.3%; Pred. No. 0.00083;

Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEE 13

DB 53 CNDGELCVPTEE 65

RESULT 7

AAU08484 AAU08484 standard; Peptide; 102 AA.

AC AAU08484;

DT 21-NOV-2001 (first entry)

DE VEGFR-1 binding epitope from human VEGF-A.

KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGFR-1.

OS Homo sapiens.

PN WO200162942-A2.

PD 30-AUG-2001.

PE 26-FEB-2001; 2001WO-US06113.

PR 25-FEB-2000; 2000US-0185205.

PR 18-MAY-2000; 2000US-0205331.

PA (LUDW-) LUDWIG INST CANCER RES.
 (LICN) LICENTIA OY.

PI Alitalo K, Jeltsch MM;

PT WPI; 2001-536640/59.

PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -

PS Example 4; Page 115; 261pp; English.

CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents VEGFR-1 binding epitope from human
 CC VEGF-A.

SO Sequence 102 AA;

Query Match 93.0%; Score 66; DB 22; Length 102;

Best Local Similarity 92.3%; Pred. No. 0.00084;

Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTEE 13

DB 54 CNDGELCVPTEE 66

RESULT 8

AAB53387
 ID AAB53387 standard; Protein; 105 AA.
 XX
 AC AAB53387;
 XX
 DT 09-MAR-2001 (first entry)
 DE Human colon cancer antigen protein sequence SEQ ID NO:927.
 XX
 KW Human: colon cancer; colon cancer antigen; diagnosis; detection;
 KW identification; cytostatic; cardioactive; neuroprotective; vulnery;
 KW immunomodulatory; muscular; gynaecological; gastrointestinal;
 KW nephrotoxic; anti-infective; antibacterial; gene therapy; wound;
 KW neural disorder; immune system disorder; muscular disorder;
 KW reproductive disorder; gastrointestinal disorder; renal disorder;
 KW infectious disease; cardiovascular disorder.
 XX
 OS Homo sapiens.
 XX
 PN WO20005351-A1.
 XX
 PD 21-SEP-2000.
 XX
 PF 08-MAR-2000; 2000WO-US05883.
 XX
 PR 12-MAR-1999; 99US-0124270.
 XX
 PA (HUMA-) HUMAN GENOME SCI INC.
 XX
 PI Rosen CA, Ruben SM;
 XX
 DR WPI; 2000-587534/55.
 DR N-PSDB; AAC98144.
 XX
 PT Colon cancer associated gene sequences, referred to as colon cancer
 PT antigens, useful for the treatment, prevention, and diagnosis of colon
 PT disorders such as colon cancer -
 XX
 PS Claim 11; Page 1486; 2104pp; English.
 CC AAC97991 to AAC98763 encode the human colon cancer associated proteins,
 CC called human colon cancer antigens, given in AAB53334 to AAB54006. The
 CC human colon cancer antigens can have cytostatic, cardioactive, muscular;
 CC neuroprotective, immunomodulatory, gynaecological, gastrointestinal,
 CC vulnery, nephrotoxic, anti-infective and antibacterial activities, and
 CC can be used in gene therapy. The colon cancer antigen polynucleotides,
 CC proteins and antibodies to the proteins are useful for the prevention,
 CC treatment and diagnosis of colon disorders, such as colon cancer. The
 CC polynucleotides may be used in diagnostics and research, such as for
 CC chromosome identification, and as hybridisation probes. The proteins
 CC may also be used to prevent diseases such as neural disorders, immune
 CC system disorders, muscular disorders, reproductive disorders,
 CC gastrointestinal disorders, wounds, renal disorders, infectious
 CC diseases, and cardiovascular disorders. AAC98764 to AAC98772 and
 CC AAB54007 represent sequences used in the exemplification of the present
 CC invention.
 XX
 SQ Sequence 105 AA;
 Query Match 93.0%; Score 66; DB 21; Length 105;
 Best Local Similarity 92.3%; Pred. No. 0.00087;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 CNDEGLSEVPTRE 13
 |||||
 DB 45 CNDEGLECVPTRE 57
 |||||
 RESULT 9
 ID AAU08407 standard; Protein; 105 AA.
 XX
 AC AAU08407;

XX
 DT 21-NOV-2001 (first entry)
 XX
 DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-1.
 XX
 KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.
 XX
 OS Homo sapiens.
 OS Synthetic.
 XX
 FH Key
 FT Domain
 FT Location/Qualifiers
 1..102
 /note= "VEGF receptor binding domain"
 XX
 PN WO200162942-A2.
 XX
 PD 30-AUG-2001.
 XX
 PF 26-FEB-2001; 2001WO-US06113.
 XX
 PR 25-FEB-2000; 2000US-0185205.
 PR 18-MAY-2000; 2000US-0205331.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 PA (LICN) LICENTIA OY.
 XX
 PI Altalo K, Jeltsch MM;
 XX
 DR WPI; 2001-536640/59.
 DR N-PSDB; AAS12844.
 XX
 PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX
 PS Claim 35; Page 182; 261pp; English.
 CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-1.
 XX
 SQ Sequence 105 AA;
 Query Match 93.0%; Score 66; DB 22; Length 105;
 Best Local Similarity 92.3%; Pred. No. 0.00087;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 CNDEGLSEVPTRE 13
 |||||
 DB 54 CNDEGLECVPTRE 66
 |||||
 RESULT 10
 ID AAU08411 standard; Protein; 105 AA.
 XX
 AC AAU08411;
 XX
 DT 21-NOV-2001 (first entry)

```

DE polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-5.
XX
XX Human; vascular endothelial growth factor; VEGF-A; angiogenesis;
XX angiogenesis; blood vessel; cancer; proliferative retinopathy;
XX psoriasis; age-related macular degeneration; rheumatoid arthritis;
XX cardiovascular; VEGF-C; mutant; mutein.
XX
OS Homo sapiens.
OS Synthetic.
FH Key Location/Qualifiers
FH Domain 1..102
FT /note= "VEGF receptor binding domain"
FT
XX
XX MO200162942-A2.
XX
XX 30-AUG-2001.
XX
XX 26-FEB-2001; 2001MO-US06113.
XX
XX 25-FEB-2000; 2000US-0185205.
XX 18-MAY-2000; 2000US-0205331.
XX
XX (LUDM-) LUDWIG INST CANCER RES.
XX (LICN) LICENTIA OY.
XX
XX Alitaco K, Jeltsch MM;
XX
XX WPI, 2001-536640/59.
XX
XX N-PSDB; AAS12848.
XX
XX
XX polypeptides that bind cellular receptors for vascular endothelial
XX growth factors, polynucleotides encoding them -
XX
XX Claim 36; Page 186-187; 261pp; English.
XX
XX The present invention relates to polypeptides that bind cellular
XX receptors for vascular endothelial growth factors (VEGFs), the
XX polynucleotides encoding them, and their use for identifying agents that
XX modulate interactions between VEGFs and their receptors. VEGFs and their
XX receptors play an important role in vasculogenesis, the development of
XX the embryonic vasculature from early differentiating endothelial cells
XX and angiogenesis, the process of forming new blood vessels from
XX pre-existing ones. Modulators of interactions between VEGF and its
XX receptors may be used to treat dysfunction of the endothelial cell
XX regulatory system. Such disorders include cancers, abnormal angiogenesis,
XX proliferative retinopathies, age-related macular degeneration, rheumatoid
XX arthritis and psoriasis. The polypeptides of the invention exhibit unique
XX receptor binding profiles compared to known naturally occurring VEGFs.
XX The present sequence represents the polypeptide encoded by human
XX VEGF-A/VEGF-C hybrid construct clone 12-5.
XX
SQ Sequence 105 AA;
XX
XX Query Match 93.0%; Score 66; DB 22; Length 105;
XX Best Local Similarity 92.3%; Pred. No. 0.00087;
XX Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
XX
XX 1 CNDEGLSEVPTTE 13
XX |||||
XX 54 CNDEGLECVPTTE 66
XX
RESULT 11
ID AAU08467 standard; Protein; 105 AA.
XX
XX AAU08467;
XX
XX 21-NOV-2001 (first entry)
XX
XX polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 14-9.
DE

```

```

XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
XX angiogenesis; blood vessel; cancer; proliferative retinopathy;
XX psoriasis; age-related macular degeneration; rheumatoid arthritis;
XX cardiovascular; VEGF-C; mutant; mutein.
XX Homo sapiens.
XX Synthetic.
XX WO200162942-A2.
XX
XX 30-AUG-2001.
XX
XX 26-FEB-2001; 2001WO-US06113.
XX
XX 25-FEB-2000; 2000US-0185205.
XX
XX 18-MAY-2000; 2000US-0205331.
XX
XX (LUDM-) LUDWIG INST CANCER RES.
XX (LICN ) LICENTIA OY.
XX
XX Alitalo K, Jeltsch MM;
XX
XX WPI; 2001-536640/59.
XX
XX N-PSDB; AAS12886.
XX
XX Polypeptides that bind cellular receptors for vascular endothelial
XX growth factors, polynucleotides encoding them -
XX
XX Claim 42; Page 249; 261pp; English.
XX
XX The present invention relates to polypeptides that bind cellular
XX receptors for vascular endothelial growth factors (VEGFs), the
XX polynucleotides encoding them, and their use for identifying agents that
XX modulate interactions between VEGFs and their receptors. VEGFs and their
XX receptors play an important role in vasculogenesis, the development of
XX the embryonic vasculature from early differentiating endothelial cells
XX and angiogenesis, the process of forming new blood vessels from
XX pre-existing ones. Modulators of interactions between VEGF and its
XX receptors may be used to treat dysfunction of the endothelial cell
XX regulatory system. Such disorders include cancers, abnormal angiogenesis,
XX proliferative retinopathies, age-related macular degeneration, rheumatoid
XX arthritis and psoriasis. The polypeptides of the invention exhibit unique
XX receptor binding profiles compared to known naturally occurring VEGFs.
XX The present sequence represents the polypeptide encoded by human
XX VEGF-A/VEGF-C hybrid construct clone 14-9.
XX
XX Sequence 105 AA;
XX
XX Query Match 93.0%; Score 66; DB 22; Length 105;
XX Best Local Similarity 92.3%; Pred. No. 0.00087;
XX Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
XX
XX 1 CNDGLESVPTTE 13
XX |||||
XX 54 CNDGSLCVCPTTE 66
XX
XX RESULT 12
XX AAU08473
XX ID AAU08473 standard; Protein; 105 AA.
XX
XX AAU08473;
XX
XX 21-NOV-2001 (first entry)
XX
XX Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 82-9.
XX
XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
XX angiogenesis; blood vessel; cancer; proliferative retinopathy;
XX psoriasis; age-related macular degeneration; rheumatoid arthritis;
XX cardiovascular; VEGF-C; mutant; mutein.
XX

```

```

OS Homo sapiens.
OS Synthetic.
XX MO200162942-A2.
XX
XX 30-AUG-2001.
XX
XX 26-FEB-2001; 2001WO-US06113.
XX
XX 25-FEB-2000; 2000US-0185205.
XX 18-MAY-2000; 2000US-0205331.
XX
XX (LUDW-) LUDWIG INST CANCER RES.
XX (LICN) LICENTIA OY.
XX
XX Alitalo K, Jeltsch MM;
XX
XX WPI; 2001-536640/59.
XX N-PSDB; AAS12892.
XX
XX Polypeptides that bind cellular receptors for vascular endothelial
XX growth factors, polynucleotides encoding them -
XX
XX Claim 48; Page 255-256; 261pp; English.
XX
XX The present invention relates to polypeptides that bind cellular
XX receptors for vascular endothelial growth factors (VEGFs), the
XX polynucleotides encoding them, and their use for identifying agents that
XX modulate interactions between VEGFs and their receptors. VEGFs and their
XX receptors play an important role in vasculogenesis, the development of
XX the embryonic vasculature from early differentiating endothelial cells
XX and angiogenesis, the process of forming new blood vessels from
XX pre-existing ones. Modulators of interactions between VEGF and its
XX receptors may be used to treat dysfunction of the endothelial cell
XX regulatory system. Such disorders include cancers, abnormal angiogenesis,
XX proliferative retinopathies, age-related macular degeneration, rheumatoid
XX arthritis and psoriasis. The polypeptides of the invention exhibit unique
XX receptor binding profiles compared to known naturally occurring VEGFs.
XX The present sequence represents the polypeptide encoded by human
XX VEGF-A/VEGF-C hybrid construct clone 82-9.
XX
XX Sequence 105 AA;
XX
XX Query Match 93.0%; Score 66; DB 22; Length 105;
XX Best Local Similarity 92.3%; Pred. No. 0.00087;
XX Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
XX
XX QY 1 CNDEGLSVPTTE 13
XX ||||| |||||
XX Db 54 CNDEGLSVPTTE 66
XX
XX RESULT 13
XX AAU08475
XX ID AAU08475 standard; Protein; 105 AA.
XX
XX AC AAU08475;
XX
XX DT 21-NOV-2001 (first entry)
XX
XX DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 82-13.
XX
XX KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
XX angiogenesis; blood vessel; cancer; proliferative retinopathy;
XX psoriasis; age-related macular degeneration; rheumatoid arthritis;
XX cardiovascular; VEGF-C; mutant; mutein.
XX
XX OS Homo sapiens.
XX OS Synthetic.
XX
XX PN WO200162942-A2.
XX
XX PD 30-AUG-2001.
XX

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XX
XX 26-FEB-2001; 2001WO-US06113.
XX
XX 25-FEB-2000; 2000US-0185205.
XX 18-MAY-2000; 2000US-0205331.
XX
XX (LUDW-) LUDWIG INST CANCER RES.
XX (LICN) LICENTIA OY.
XX
XX Alitalo K, Jeltsch MM;
XX
XX WPI; 2001-536640/59.
XX N-PSDB; AAS12894.
XX
XX Polypeptides that bind cellular receptors for vascular endothelial
XX growth factors, polynucleotides encoding them -
XX
XX Claim 50; Page 258; 261pp; English.
XX
XX The present invention relates to polypeptides that bind cellular
XX receptors for vascular endothelial growth factors (VEGFs), the
XX polynucleotides encoding them, and their use for identifying agents that
XX modulate interactions between VEGFs and their receptors. VEGFs and their
XX receptors play an important role in vasculogenesis, the development of
XX the embryonic vasculature from early differentiating endothelial cells
XX and angiogenesis, the process of forming new blood vessels from
XX pre-existing ones. Modulators of interactions between VEGF and its
XX receptors may be used to treat dysfunction of the endothelial cell
XX regulatory system. Such disorders include cancers, abnormal angiogenesis,
XX proliferative retinopathies, age-related macular degeneration, rheumatoid
XX arthritis and psoriasis. The polypeptides of the invention exhibit unique
XX receptor binding profiles compared to known naturally occurring VEGFs.
XX The present sequence represents the polypeptide encoded by human
XX VEGF-A/VEGF-C hybrid construct clone 82-13.
XX
XX Sequence 105 AA;
XX
XX Query Match 93.0%; Score 66; DB 22; Length 105;
XX Best Local Similarity 92.3%; Pred. No. 0.00087;
XX Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
XX
XX QY 1 CNDEGLSVPTTE 13
XX ||||| |||||
XX Db 54 CNDEGLSVPTTE 66
XX
XX RESULT 14
XX AAU08477
XX ID AAU08477 standard; Protein; 105 AA.
XX
XX AC AAU08477;
XX
XX DT 21-NOV-2001 (first entry)
XX
XX DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 84-9.
XX
XX KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
XX angiogenesis; blood vessel; cancer; proliferative retinopathy;
XX psoriasis; age-related macular degeneration; rheumatoid arthritis;
XX cardiovascular; VEGF-C; mutant; mutein.
XX
XX OS Homo sapiens.
XX OS Synthetic.
XX
XX PN WO200162942-A2.
XX
XX PD 30-AUG-2001.
XX
XX 26-FEB-2001; 2001WO-US06113.
XX
XX 25-FEB-2000; 2000US-0185205.
XX 18-MAY-2000; 2000US-0205331.
XX

```

PA (LUDW-) LUDWIG INST CANCER RES.
 PA (LICN) LICENTIA OY.
 PI Altalo K, Jeltch MM;
 DR WPI, 2001-536640/59.
 DR N-PSDB; AAS12896.
 XX Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX Claim 52, Page 260, 261pp, English.
 XX The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 84-9.
 CC
 SQ Sequence 105 AA;
 Query Match 93.0%; Score 66; DB 22; Length 105;
 Best Local Similarity 92.3%; Pred. No. 0.00087;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 Oy 1 CNDGLESVPTEE 13
 |||||
 Db 54 CNDGELCVPTEE 66
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 RESULT 15
 AAY69417
 ID AAY69417 standard; Protein; 110 AA.
 AC AAY69417;
 XX
 DT 03-JUL-2000 (first entry)
 DE
 XX Amino acid sequence of vascular endothelial growth factor 110.
 XX Human; vascular endothelial growth factor; VEGF 110; angiogenic factor;
 KW blood vessel injury; vascular injury; microvascular angiopathy;
 KW thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome;
 KW toxic shock syndrome; venom; hypercoagulable state; platelet activation;
 KW platelet aggregation; thrombosis; preclampsia; sepsis; pancreatitis;
 KW intravascular coagulation; thrombotic thrombocytopenia purpura;
 KW acute renal failure; myocardial infarction; ischemic bowel disease;
 KW stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury;
 KW acute respiratory distress syndrome; pneumonia; pulmonary emboli;
 KW acute respiratory distress syndrome; wound; allergy; hypersensitivity;
 KW birth prematurity disorder; autoimmune diseases; organ transplant; focal glomerulosclerosis;
 KW amyloidosis.
 XX
 OS Homo sapiens.
 XX
 XX WO200013702-A2.
 XX
 XX 16-MAR-2000.
 XX
 XX 09-SEP-1999; 99WO-US20480.
 XX
 XX 09-SEP-1998; 98US-0099694.
 XX
 XX 26-MAR-1999; 99US-0126406.
 PR

PR 27-MAR-1999; 99US-0126615.
 XX
 XX (SCIO-) SCIOS INC.
 XX
 PI Schreiner GF, Johnson RJ;
 DR WPI, 2000-256861/22.
 XX
 XX Novel methods and compositions for the prevention and treatment of
 PT microvascular angiopathies by administration of angiogenic factors such
 PT as vascular endothelial growth factor (VEGF) -
 XX
 XX Disclosure; Fig 12; 46pp; English.
 XX
 XX The present sequence represents native human vascular endothelial growth
 CC factor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins are used
 CC for the prevention or repair of injury to blood vessels or associated
 CC nonvascular tissues (served by the blood vessels) and for the prevention
 CC and repair of vascular injury associated with microvascular angiopathy,
 CC particularly thrombotic microangiopathy. The proteins methods may also
 CC be used for the prevention and treatment of kidney diseases associated
 CC with injury to, or atrophy of, the vasculature of the glomerulus and
 CC interstitium. Conditions which may be treated include hemolytic uremic
 CC syndrome, toxic shock syndrome, venom exposure, chemical exposure,
 CC hypercoagulable states, platelet activation or aggregation, thrombosis,
 CC preclampsia, thrombotic thrombocytopenia purpura, disseminated
 CC intravascular coagulation, sepsis, pancreatitis, acute renal failure,
 CC myocardial infarction, ischemic bowel disease, transient ischemic
 CC attacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung
 CC endothelium injury, acute respiratory distress syndrome, toxic alveolar
 CC injury, pneumonia, pulmonary emboli, birth prematurity disorders,
 CC wounds, allergic reactions, hypersensitivity, autoimmune diseases, organ
 CC transplants, focal glomerulosclerosis, and amyloidosis.
 CC
 SQ Sequence 110 AA;
 Query Match 93.0%; Score 66; DB 21; Length 110;
 Best Local Similarity 92.3%; Pred. No. 0.00091;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 Oy 1 CNDGLESVPTEE 13
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 Db 61 CNDGELCVPTEE 73
 |||||
 Search completed: January 30, 2004, 11:40:08
 Job time : 17.925 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:35:33 ; Search time 5.5333 seconds
(without alignments)
99.405 Million cell updates/sec

Title: US-09-266-543-8

Perfect score: 71

Sequence: 1 CNDGLESVPTER 13

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents, AA:*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	66	93.0	65	4	US-09-244-583-12
2	66	93.0	109	3	US-08-691-794-3
3	66	93.0	110	4	US-09-392-932-11
4	66	93.0	110	4	US-09-574-708A-11
5	66	93.0	110	4	US-09-822-270-17
6	66	93.0	121	6	5194596-19
7	66	93.0	121	6	5219739-20
8	66	93.0	136	4	US-09-037-983C-15
9	66	93.0	137	4	US-09-037-983C-17
10	66	93.0	138	4	US-09-037-983C-16
11	66	93.0	141	4	US-09-519-475-2
12	66	93.0	145	3	US-08-784-551C-2
13	66	93.0	145	3	US-09-392-932-2
14	66	93.0	145	4	US-09-574-708A-2
15	66	93.0	145	4	US-09-037-983C-2
16	66	93.0	147	3	US-08-807-992B-1
17	66	93.0	147	4	US-09-392-932-1
18	66	93.0	147	4	US-08-706-054A-4
19	66	93.0	147	4	US-09-574-708A-2
20	66	93.0	147	4	US-09-313-299-4
21	66	93.0	164	4	US-09-244-583-24
22	66	93.0	165	4	US-08-882-815-3
23	66	93.0	165	4	US-08-802-052B-3
24	66	93.0	165	6	5194596-18
25	66	93.0	165	6	5219739-19
26	66	93.0	188	4	US-09-244-583-28
27	66	93.0	191	3	US-08-567-200A-2

28	66	93.0	191	3	US-08-807-992B-2	Sequence 2, Appl
29	66	93.0	191	3	US-08-691-794-2	Sequence 2, Appl
30	66	93.0	191	3	US-08-795-430-56	Sequence 56, Appl
31	66	93.0	191	4	US-09-392-932-3	Sequence 3, Appl
32	66	93.0	191	4	US-09-355-700-56	Sequence 56, Appl
33	66	93.0	191	4	US-08-882-816-2	Sequence 2, Appl
34	66	93.0	191	4	US-09-574-708A-6	Sequence 6, Appl
35	66	93.0	191	4	US-08-802-052B-2	Sequence 2, Appl
36	66	93.0	191	6	5332671-4	Patent No. 5332671
37	66	93.0	208	4	US-09-244-583-25	Sequence 26, Appl
38	66	93.0	213	4	US-09-574-708A-8	Sequence 8, Appl
39	66	93.0	214	6	5240848-11	Patent No. 5240848
40	66	93.0	215	3	US-08-807-992B-3	Sequence 3, Appl
41	66	93.0	215	3	US-08-586-039B-49	Sequence 49, Appl
42	66	93.0	215	4	US-09-699-769-49	Sequence 49, Appl
43	66	93.0	215	6	5219739-22	Patent No. 5219739
44	66	93.0	215	6	5240848-7	Patent No. 5240848
45	66	93.0	231	5	PCT-US96-09001-10	Sequence 10, Appl

ALIGNMENTS

RESULT 1
US-09-244-583-12
; Sequence 12, Application US/09244583
; Patent No. 6479654
; GENERAL INFORMATION:
; APPLICANT: BAIRD, ANDREW
; TITLE OF INVENTION: NOVEL FORMS OF THE ANGIOGENIC FACTOR
; TITLE OF INVENTION: NOVEL FORMS OF THE ANGIOGENIC FACTOR
; FILE REFERENCE: 240/086
; CURRENT APPLICATION NUMBER: US/09/244,583
; CURRENT FILING DATE: 1999-02-04
; EARLIER APPLICATION NUMBER: 60/073,979
; EARLIER FILING DATE: 1998-02-06
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: FASTSQ for Windows Version 3.0
; SEQ ID NO 12
; LENGTH: 65
; TYPE: PRT
; ORGANISM: Homo sapien
US-09-244-583-12

Query Match 93.0%; Score 66; DB 4; Length 65;
Best Local Similarity 92.3%; Pred. No. 0.00012;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTER 13
DB 47 CNDGLESVPTER 59

RESULT 2
US-08-691-794-3
; Sequence 3, Application US/08691794
; Patent No. 6057428
; GENERAL INFORMATION:
; APPLICANT: Keyt, Bruce A.
; APPLICANT: Nguyen, Francine H.
; APPLICANT: Ferrara, Napoleone
; APPLICANT: Cunningham, Brian C.
; APPLICANT: Wells, James A.
; APPLICANT: Li, Bing
; TITLE OF INVENTION: Variants of Vascular Endothelial Cell
; TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
; TITLE OF INVENTION: Production
; NUMBER OF SEQUENCES: 45
; CORRESPONDENCE ADDRESS:
; ADDRESS: Flehr, Hohbach, Test, Albritton & Herbert
; STREET: Four Embarcadero Center, Suite 3400
; CITY: San Francisco

STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dregert, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/WHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 109 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
US-08-691-794-3

Query Match 93.0%; Score 66; DB 3; Length 109;
Best Local Similarity 92.3%; Pred. No. 0.00022;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
Db 61 CNDGLECVPTTE 73

RESULT 3
US-09-392-932-11
Sequence 11, Application US/09392932
Patent No. 6352975
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-392-932-11

Query Match 93.0%; Score 66; DB 4; Length 110;
Best Local Similarity 92.3%; Pred. No. 0.00022;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
Db 61 CNDGLECVPTTE 73

RESULT 4
US-09-574-708A-11
Sequence 11, Application US/09574708A
Patent No. 6475796
GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
FILE REFERENCE: SCIOS004A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo sapiens
US-09-574-708A-11

Query Match 93.0%; Score 66; DB 4; Length 110;
Best Local Similarity 92.3%; Pred. No. 0.00022;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
Db 61 CNDGLECVPTTE 73

RESULT 5
US-09-822-270-17
Sequence 17, Application US/09822270
Patent No. 6559126
GENERAL INFORMATION:
APPLICANT: TOURNAIRE, ROSELYNE
APPLICANT: DEMANGEL, CAROLINE
APPLICANT: DERBIN, CLAUDE
APPLICANT: PERRET, GERARD
APPLICANT: MAZIE, JEAN-CLAUDE
APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIATED
FILE REFERENCE: 205060USO
CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/193,396
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
SOFTWARE: Patentin version 3.1
SEQ ID NO 17
LENGTH: 110
TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-822-270-17

Query Match 93.0%; Score 66; DB 4; Length 110;
Best Local Similarity 92.3%; Pred. No. 0.00022;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
Db 61 CNDGLECVPTTE 73

RESULT 6
5194596-19

Patent No. 5194596
 APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
 C.; MITCHELL, RICHARD L.
 TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
 GROWTH FACTOR
 NUMBER OF SEQUENCES: 32
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/07/450,883
 FILING DATE: 14-DEC-1989
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: 387,545
 FILING DATE: 27-JUL-1989
 SEQ ID NO: 19
 LENGTH: 121
 5194596-19

Query Match 93.0%; Score 66; DB 6; Length 121;
 Best Local Similarity 92.3%; Pred. No. 0.00025;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTER 13
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 DB 61 CNDGLESVPTER 73

RESULT 7

5219739-20
 Patent No. 5219739
 APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
 JOHN C.; MITCHELL, RICHARD L.
 TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGFG120 AND
 BVGFG 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
 VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGFG120 AND BVGFG121
 NUMBER OF SEQUENCES: 40
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/07/559,041
 FILING DATE: 27-JUL-1990
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: 450,883
 FILING DATE: 14-DEC-1989
 APPLICATION NUMBER: 387,545
 FILING DATE: 27-JUL-1989
 SEQ ID NO: 20
 LENGTH: 121
 5219739-20

Query Match 93.0%; Score 66; DB 6; Length 121;
 Best Local Similarity 92.3%; Pred. No. 0.00025;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTER 13
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 DB 61 CNDGLESVPTER 73

RESULT 8

US-09-037-983C-15
 Sequence 15, Application US/09037983C
 Patent No. 6583276
 GENERAL INFORMATION:
 APPLICANT: Newfield, Gera
 APPLICANT: Keshet, Eli
 APPLICANT: Vlodavsky, Israel
 APPLICANT: Poltorak, Zoya
 TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
 FILE REFERENCE: 000274-00009
 CURRENT APPLICATION NUMBER: US/09/037,983C
 CURRENT FILING DATE: 1998-03-11
 PRIOR APPLICATION NUMBER: 60/025,537
 PRIOR FILING DATE: 1996-09-06
 NUMBER OF SEQ ID NOS: 17
 SOFTWARE: PatentIn version 3.1
 SEQ ID NO 15

LENGTH: 136
 TYPE: PRT
 ORGANISM: Homo sapiens
 US-09-037-983C-15

Query Match 93.0%; Score 66; DB 4; Length 136;
 Best Local Similarity 92.3%; Pred. No. 0.00028;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTER 13
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 DB 61 CNDGLESVPTER 73

RESULT 9

US-09-037-983C-17
 Sequence 17, Application US/09037983C
 Patent No. 6583276
 GENERAL INFORMATION:
 APPLICANT: Newfield, Gera
 APPLICANT: Keshet, Eli
 APPLICANT: Vlodavsky, Israel
 APPLICANT: Poltorak, Zoya
 TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
 FILE REFERENCE: 000274-00009
 CURRENT APPLICATION NUMBER: US/09/037,983C
 CURRENT FILING DATE: 1998-03-11
 PRIOR APPLICATION NUMBER: 60/025,537
 PRIOR FILING DATE: 1996-09-06
 NUMBER OF SEQ ID NOS: 17
 SOFTWARE: PatentIn version 3.1
 SEQ ID NO 17
 LENGTH: 137
 TYPE: PRT
 ORGANISM: Homo sapiens
 US-09-037-983C-17

Query Match 93.0%; Score 66; DB 4; Length 137;
 Best Local Similarity 92.3%; Pred. No. 0.00029;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTER 13
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 DB 61 CNDGLESVPTER 73

RESULT 10

US-09-037-983C-16
 Sequence 16, Application US/09037983C
 Patent No. 6583276
 GENERAL INFORMATION:
 APPLICANT: Newfield, Gera
 APPLICANT: Keshet, Eli
 APPLICANT: Vlodavsky, Israel
 APPLICANT: Poltorak, Zoya
 TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
 FILE REFERENCE: 000274-00009
 CURRENT APPLICATION NUMBER: US/09/037,983C
 CURRENT FILING DATE: 1998-03-11
 PRIOR APPLICATION NUMBER: 60/025,537
 PRIOR FILING DATE: 1996-09-06
 NUMBER OF SEQ ID NOS: 17
 SOFTWARE: PatentIn version 3.1
 SEQ ID NO 16
 LENGTH: 138
 TYPE: PRT
 ORGANISM: Homo sapiens
 US-09-037-983C-16

Query Match 93.0%; Score 66; DB 4; Length 138;
 Best Local Similarity 92.3%; Pred. No. 0.00029;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTPE 13
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Db 61 CNDGLECVPTPE 73

RESULT 11
US-09-519-476-2
; Sequence 2, Application US/09519476
; Patent No. 6506884
; GENERAL INFORMATION:
; APPLICANT: MINTZ, Liat et al.
; TITLE OF INVENTION: NOVEL NUCLEIC ACID AND AMINO ACID SEQUENCES
; FILE REFERENCE: 2786-0149P
; CURRENT APPLICATION NUMBER: US/09/519,476
; PRIOR FILING DATE: 2000-03-09
; PRIOR APPLICATION NUMBER: IL128852
; PRIOR FILING DATE: 1999-03-05
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 2
; LENGTH: 141
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-519-476-2

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Best Local Similarity 92.3%; Pred. No. 0.0003;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTPE 13
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Db 87 CNDGLECVPTPE 99

RESULT 12
US-08-784-551C-2
; Sequence 2, Application US/08784551C
; Patent No. 6013780
; GENERAL INFORMATION:
; APPLICANT: Gera Neufeld
; APPLICANT: Eli Keshet
; APPLICANT: Israel Viodavsky
; APPLICANT: Zoya Poltorak
; TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF
; TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE
; NUMBER OF SEQUENCES: 9
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Blank, Rome, Comisky & McCauley LLP
; STREET: 900 17th Street, N.W.
; CITY: Washington, D.C.
; STATE: N/A
; COUNTRY: U.S.A.
; ZIP: 20006
; COMPUTER READABLE FORM:
; MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
; MEDIUM TYPE: Storage
; OPERATING SYSTEM: IBM P.C. DOS 5.0
; SOFTWARE: FastSeq for Windows 2.0
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/784,551C
; FILING DATE: January 21, 1997
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Cohen, Herbert
; REGISTRATION NUMBER: 25,109
; REFERENCE/DOCKET NUMBER: 0274-.005/P003
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (202) 463-7700

TELEFAX: (202) 463-6915
; TELEFAX:
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 145 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
US-08-784-551C-2

Query Match 93.0%; Score 66; DB 3; Length 145;
Best Local Similarity 92.3%; Pred. No. 0.00031;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTPE 13
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Db 61 CNDGLECVPTPE 73

RESULT 13
US-09-392-932-2
; Sequence 2, Application US/09392932
; Patent No. 6352975
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
; TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
; FILE REFERENCE: SCIOS.002A
; CURRENT APPLICATION NUMBER: US/09/392,932
; CURRENT FILING DATE: 1999-09-09
; EARLIER APPLICATION NUMBER: 60/099,694
; EARLIER FILING DATE: 1998-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 145
; TYPE: PRT
; ORGANISM: Homo Sapiens
US-09-392-932-2

Query Match 93.0%; Score 66; DB 4; Length 145;
Best Local Similarity 92.3%; Pred. No. 0.00031;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTPE 13
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Db 61 CNDGLECVPTPE 73

RESULT 14
US-09-574-708A-4
; Sequence 4, Application US/09574708A
; Patent No. 6475796
; GENERAL INFORMATION:
; APPLICANT: N. Stephen Pollitt
; APPLICANT: Judith A. Abraham
; TITLE OF INVENTION: Vascular endothelial growth factor
; TITLE OF INVENTION: Variants
; FILE REFERENCE: SCIOS004A
; CURRENT APPLICATION NUMBER: US/09/574,708A
; CURRENT FILING DATE: 2000-05-18
; PRIOR APPLICATION NUMBER: US 60/135,312
; PRIOR FILING DATE: 1999-05-20
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 145
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-574-708A-4

Query Match 93.0%; Score 66; DB 4; Length 145;

Best Local Similarity 92.3%; Pred. No. 0.00031;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTTE 13
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Db 61 CNDGLECCVPTTE 73

RESULT 15

US-09-037-983C-2
; Sequence 2, Application US/09037983C
; Patent No. 6583276
; GENERAL INFORMATION:
; APPLICANT: Newfeld, Gera
; APPLICANT: Keahet, Eli
; APPLICANT: Vlodayevsky, Israel
; APPLICANT: Poltorak, Zoya
; TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
; FILE REFERENCE: 000274-00009
; CURRENT APPLICATION NUMBER: US/09/037,983C
; CURRENT FILING DATE: 1998-03-11
; PRIOR APPLICATION NUMBER: 60/025,537
; PRIOR FILING DATE: 1996-09-06
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 145
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-037-983C-2

Query Match 93.0%; Score 66; DB 4; Length 145;
Best Local Similarity 92.3%; Pred. No. 0.00031;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDGLESVPTTE 13
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Db 61 CNDGLECCVPTTE 73

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Job time : 5.53333 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: January 30, 2004, 11:44:49 ; Search time 12.8667 Seconds
(without alignments)
209.978 Million cell updates/sec

Title: US-09-266-543-8
Perfect score: 71
Sequence: 1 CNDEGLSVPTPE 13

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Minimum DB seq length: 0
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Listing first 45 summaries

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Published Applications_AA:*

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- 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*
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- 13: /cgn2_6/ptodata/2/pubpaa/US10A_PUBCOMB.pep:*
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- 15: /cgn2_6/ptodata/2/pubpaa/US10C_PUBCOMB.pep:*
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- 18: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	66	93.0	47	14	US-10-139-876-13
2	66	93.0	65	12	US-10-293-157-12
3	66	93.0	79	14	US-10-086-623-14
4	66	93.0	79	15	US-10-260-539-14
5	66	93.0	94	9	US-09-761-636A-2
6	66	93.0	100	12	US-10-094-749-2847
7	66	93.0	101	11	US-09-832-355A-2
8	66	93.0	105	9	US-09-925-299-927
9	66	93.0	105	10	US-09-795-006A-51
10	66	93.0	105	10	US-09-795-006A-59
11	66	93.0	105	10	US-09-795-006A-153
12	66	93.0	105	10	US-09-795-006A-165
13	66	93.0	105	10	US-09-795-006A-169
14	66	93.0	105	10	US-09-795-006A-173
15	66	93.0	105	11	US-09-925-299-927

16	66	93.0	110	9	US-09-822-270-17	Sequence 17, Appl
17	66	93.0	110	12	US-10-342-371-17	Sequence 17, Appl
18	66	93.0	110	12	US-10-392-931-10	Sequence 10, Appl
19	66	93.0	110	12	US-10-392-931-11	Sequence 11, Appl
20	66	93.0	110	12	US-10-418-529-10	Sequence 10, Appl
21	66	93.0	110	12	US-10-418-529-11	Sequence 11, Appl
22	66	93.0	110	14	US-10-083-817-11	Sequence 11, Appl
23	66	93.0	110	15	US-10-268-447-11	Sequence 11, Appl
24	66	93.0	121	11	US-09-832-355A-1	Sequence 11, Appl
25	66	93.0	125	10	US-09-795-006A-43	Sequence 43, Appl
26	66	93.0	127	10	US-09-795-006A-47	Sequence 47, Appl
27	66	93.0	127	10	US-09-795-006A-83	Sequence 83, Appl
28	66	93.0	127	10	US-09-795-006A-91	Sequence 91, Appl
29	66	93.0	128	10	US-09-795-006A-67	Sequence 67, Appl
30	66	93.0	128	10	US-09-795-006A-75	Sequence 75, Appl
31	66	93.0	129	10	US-09-795-006A-99	Sequence 99, Appl
32	66	93.0	129	10	US-09-795-006A-107	Sequence 107, Appl
33	66	93.0	141	15	US-10-298-794-2	Sequence 2, Appl
34	66	93.0	145	12	US-10-319-828-2	Sequence 2, Appl
35	66	93.0	145	12	US-10-392-931-4	Sequence 4, Appl
36	66	93.0	145	12	US-10-418-529-4	Sequence 4, Appl
37	66	93.0	145	14	US-10-083-817-2	Sequence 2, Appl
38	66	93.0	145	15	US-10-268-447-4	Sequence 4, Appl
39	66	93.0	147	12	US-10-346-802-4	Sequence 4, Appl
40	66	93.0	147	12	US-10-392-931-2	Sequence 2, Appl
41	66	93.0	147	12	US-10-418-529-2	Sequence 2, Appl
42	66	93.0	147	14	US-10-083-817-1	Sequence 1, Appl
43	66	93.0	147	15	US-10-268-447-2	Sequence 2, Appl
44	66	93.0	150	11	US-09-832-355A-61	Sequence 61, Appl
45	66	93.0	154	11	US-09-832-355A-59	Sequence 59, Appl

ALIGNMENTS

RESULT 1
US-10-139-876-13
; Sequence 13, Application US/10139876
; Publication No US20020123481A1
GENERAL INFORMATION:
; APPLICANT: Oliviero, Salvatore
; TITLE OF INVENTION: C-Fos Induced Growth Factor (Figf) And Dna Encoding Same
; FILE REFERENCE: 35784/205172
; CURRENT APPLICATION NUMBER: US/10/139, 876
; CURRENT FILING DATE: 2002-05-07
; PRIOR APPLICATION NUMBER: 09/043, 476
; PRIOR FILING DATE: 1998-03-18
; PRIOR APPLICATION NUMBER: PCT/IB96/0113
; PRIOR FILING DATE: 1996-09-30
; PRIOR APPLICATION NUMBER: GB9612368.2
; PRIOR FILING DATE: 1996-06-13
; PRIOR APPLICATION NUMBER: GB9519928.7
; PRIOR FILING DATE: 1995-09-29
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 13
; LENGTH: 47
; TYPE: PRT
; ORGANISM: unknown
; FEATURE:
; OTHER INFORMATION: mammalian
; FEATURE:
; NAME/KEY: PEPTIDE
; LOCATION: (1)..(47)
; OTHER INFORMATION: segment of VEGF
US-10-139-876-13

Query Match 93.0% Score 66; DB 14; Length 47;
Best Local Similarity 92.3%; Pred. No. 0.00018;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Cy 1 CNDEGLSVPTPE 13
|||||

Db 1 CNDEGLBCVPTBE 13

RESULT 2

US-10-293-157-12
; Sequence 12, Application US/10293157
; Publication No. US20030144200A1
; GENERAL INFORMATION:
; APPLICANT: BAIRD, ANDREW
; APPLICANT: ANDREASON, GRAI
; TITLE OF INVENTION: NOVEL FORMS OF THE ANGIOGENIC FACTOR
; FILE REFERENCE: 240/086
; CURRENT APPLICATION NUMBER: US/10/293,157
; PRIOR FILING DATE: 2002-11-12
; PRIOR APPLICATION NUMBER: US/09/244,583
; PRIOR FILING DATE: 1999-02-04
; PRIOR APPLICATION NUMBER: 60/073,979
; PRIOR FILING DATE: 1998-02-06
; NUMBER OF SEQ ID NOS: 29
; SOFTWARE: PatSeq for Windows Version 3.0
; SEQ ID NO 12
; LENGTH: 65
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-293-157-12

Query Match 93.0%; Score 66; DB 12; Length 65;
Best Local Similarity 92.3%; Pred. No. 0.00026;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLBCVPTBE 13
Db 47 CNDEGLBCVPTBE 59

RESULT 3

US-10-086-623-14
; Sequence 14, Application US/10086623
; Publication No. US20020164710A1
; GENERAL INFORMATION:
; APPLICANT: ERIKSSON, Ulf
; APPLICANT: AASE, Karin
; APPLICANT: LI, Xuri
; APPLICANT: PONTEN, Annica
; APPLICANT: TUTELA, Marko
; APPLICANT: ALITALO, Kari
; APPLICANT: OESTMAN, Arne
; APPLICANT: HELDIN, Carl-Henrik
; TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D, DNA CODING THEREFOR AND USES TH
; FILE REFERENCE: 1064/44833C2
; CURRENT APPLICATION NUMBER: US/10/086,623
; PRIOR FILING DATE: 2000-03-04
; PRIOR APPLICATION NUMBER: US 60/107,852
; PRIOR FILING DATE: 1998-11-10
; PRIOR APPLICATION NUMBER: US 60/113,997
; PRIOR FILING DATE: 1998-12-28
; PRIOR APPLICATION NUMBER: US 60/150,604
; PRIOR FILING DATE: 1999-08-26
; PRIOR APPLICATION NUMBER: US 60/157,108
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: US 60/157,756
; PRIOR FILING DATE: 1999-10-05
; PRIOR APPLICATION NUMBER: US 09/438,046
; PRIOR FILING DATE: 1999-11-10
; PRIOR APPLICATION NUMBER: US 09/691,200
; PRIOR FILING DATE: 2000-10-19
; NUMBER OF SEQ ID NOS: 42
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 14
; LENGTH: 79
; TYPE: PRT
; ORGANISM: Homo sapiens

; FEATURE:
; NAME/KEY: misc feature
; OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165
US-10-086-623-14

Query Match 93.0%; Score 66; DB 14; Length 79;
Best Local Similarity 92.3%; Pred. No. 0.00032;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLBCVPTBE 13
Db 36 CNDEGLBCVPTBE 48

RESULT 4

US-10-260-539-14
; Sequence 14, Application US/10260539
; Publication No. US20030073637A1
; GENERAL INFORMATION:
; APPLICANT: ERIKSSON, Ulf
; APPLICANT: AASE, Karin
; APPLICANT: LI, Xuri
; APPLICANT: PONTEN, Annica
; APPLICANT: TUTELA, Marko
; APPLICANT: ALITALO, Kari
; APPLICANT: OESTMAN, Arne
; APPLICANT: HELDIN, Carl-Henrik
; TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D, DNA CODING THEREFOR AND USES TH
; FILE REFERENCE: 1064/44833C2
; CURRENT APPLICATION NUMBER: US/10/260,539
; CURRENT FILING DATE: 2002-10-01
; PRIOR APPLICATION NUMBER: US/10/086,623
; PRIOR FILING DATE: 2000-03-04
; PRIOR APPLICATION NUMBER: US 60/107,852
; PRIOR FILING DATE: 1998-11-10
; PRIOR APPLICATION NUMBER: US 60/113,997
; PRIOR FILING DATE: 1998-12-28
; PRIOR APPLICATION NUMBER: US 60/150,604
; PRIOR FILING DATE: 1999-08-26
; PRIOR APPLICATION NUMBER: US 60/157,108
; PRIOR FILING DATE: 1999-10-04
; PRIOR APPLICATION NUMBER: US 60/157,756
; PRIOR FILING DATE: 1999-10-05
; PRIOR APPLICATION NUMBER: US 09/438,046
; PRIOR FILING DATE: 1999-11-10
; PRIOR APPLICATION NUMBER: US 09/691,200
; PRIOR FILING DATE: 2000-10-19
; NUMBER OF SEQ ID NOS: 42
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 14
; LENGTH: 79
; TYPE: PRT
; ORGANISM: Homo sapiens

; FEATURE:
; NAME/KEY: misc feature
; OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165
US-10-260-539-14

Query Match 93.0%; Score 66; DB 15; Length 79;
Best Local Similarity 92.3%; Pred. No. 0.00032;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLBCVPTBE 13
Db 36 CNDEGLBCVPTBE 48

RESULT 5

US-09-761-636A-2
; Sequence 2, Application US/09761636A
; Patent No. US20020065218A1
; GENERAL INFORMATION:
; APPLICANT: ACHEN, Marc

APPLICANT: STACKER, Steven
APPLICANT: HUGHES, Richard
APPLICANT: CENDRON, Angela
TITLE OF INVENTION: VEGF-D/VEGF-C/VEGF PEPTIDOMIMETIC INHIBITOR
FILE REFERENCE: 1064/48505 Achen et al
CURRENT APPLICATION NUMBER: US/09/761, 636A
CURRENT FILING DATE: 2001-01-18
PRIOR APPLICATION NUMBER: US 60/176,293
PRIOR FILING DATE: 2000-01-18
PRIOR APPLICATION NUMBER: US 60/204,590
PRIOR FILING DATE: 2000-05-16
NUMBER OF SEQ ID NOS: 34
SOFTWARE: PatentIn version 3.0
SEQ ID NO 2
LENGTH: 94
TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: misc feature
OTHER INFORMATION: Amino acid residues Lys42-Asp135 of VEGF165
US-09-761-636A-2

Query Match 93.0%; Score 66; DB 9; Length 94;
Best Local Similarity 92.3%; Pred. No. 0.00039;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
Db 46 CNDGLESVPTEE 58

RESULT 6
US-10-094-749-2847
Sequence 2847, Application US/10094749
Publication No. US20030219741A1
GENERAL INFORMATION:
APPLICANT: ISOGAI, TAKAO
APPLICANT: SUGIYAMA, TOMOYASU
APPLICANT: OTSUKI, TETSUKI
APPLICANT: WAKAMATSU, AI
APPLICANT: SATO, HIROYUKI
APPLICANT: ISHII, SHIZUKO
APPLICANT: YAMAMOTO, JUN-ICHI
APPLICANT: ISOMO, YUUKO
APPLICANT: HIO, YURI
APPLICANT: OTSUKA, KAORU
APPLICANT: NAGAI, KEIICHI
APPLICANT: IRIE, RYOTARO
APPLICANT: TAMECHIKA, ICHIRO
APPLICANT: SEKI, NAOHICO
APPLICANT: YOSHIKAWA, TSUTOMU
APPLICANT: OTSUKA, MOTORYUKI
APPLICANT: NAGAHARI, KENJI
APPLICANT: MASUHO, YASUHIKO
TITLE OF INVENTION: NOVEL FULL-LENGTH CDNA
FILE REFERENCE: 084335/0160
CURRENT APPLICATION NUMBER: US/10/094,749
CURRENT FILING DATE: 2002-03-12
PRIOR APPLICATION NUMBER: 60/350,435
PRIOR FILING DATE: 2002-01-24
PRIOR APPLICATION NUMBER: JP 2001-328381
PRIOR FILING DATE: 2001-09-14
NUMBER OF SEQ ID NOS: 3381
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 2847
LENGTH: 100
TYPE: PRT
ORGANISM: Homo sapiens
US-10-094-749-2847

Query Match 93.0%; Score 66; DB 12; Length 100;
Best Local Similarity 92.3%; Pred. No. 0.00042;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
Db 44 CNDGLESVPTEE 56

RESULT 7
US-09-832-355A-2
Sequence 2, Application US/09832355A
Publication No. US20030027751A1
GENERAL INFORMATION:
APPLICANT: Kovesdi, Imre
APPLICANT: Kessler, Paul
TITLE OF INVENTION: VEGF FUSION PROTEINS
FILE REFERENCE: 205654
CURRENT APPLICATION NUMBER: US/09/832,355A
CURRENT FILING DATE: 2001-04-10
NUMBER OF SEQ ID NOS: 126
SOFTWARE: PatentIn version 3.0
SEQ ID NO 2
LENGTH: 101
TYPE: PRT
ORGANISM: Homo sapiens
US-09-832-355A-2

Query Match 93.0%; Score 66; DB 11; Length 101;
Best Local Similarity 92.3%; Pred. No. 0.00042;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
Db 53 CNDGLESVPTEE 65

RESULT 8
US-09-925-299-927
Sequence 927, Application US/09925299
Patent No. US20020055627A1
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
FILE REFERENCE: PA102
CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 927
LENGTH: 105
TYPE: PRT
ORGANISM: Homo sapiens
US-09-925-299-927

Query Match 93.0%; Score 66; DB 9; Length 105;
Best Local Similarity 92.3%; Pred. No. 0.00044;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
Db 45 CNDGLESVPTEE 57

RESULT 9
US-09-795-006A-51
Sequence 51, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alicata et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAs AND PROTEINS

FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 51
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-51

Query Match 93.0%; Score 66; DB 10; Length 105;
Best Local Similarity 92.3%; Pred. No. 0.00044;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTTE 13
Db 54 CNDGLEGCVPTTE 66

RESULT 10
US-09-795-006A-59
Sequence 59, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alltalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 59
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-59

Query Match 93.0%; Score 66; DB 10; Length 105;
Best Local Similarity 92.3%; Pred. No. 0.00044;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTTE 13
Db 54 CNDGLEGCVPTTE 66

RESULT 11
US-09-795-006A-153
Sequence 153, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alltalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18

PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 153
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-153

Query Match 93.0%; Score 66; DB 10; Length 105;
Best Local Similarity 92.3%; Pred. No. 0.00044;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTTE 13
Db 54 CNDGLEGCVPTTE 66

RESULT 12
US-09-795-006A-165
Sequence 165, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alltalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 165
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-165

Query Match 93.0%; Score 66; DB 10; Length 105;
Best Local Similarity 92.3%; Pred. No. 0.00044;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTTE 13
Db 54 CNDGLEGCVPTTE 66

RESULT 13
US-09-795-006A-169
Sequence 169, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Alltalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 169

LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-169

Query Match 93.0%; Score 66; DB 10; Length 105;
Best Local Similarity 92.3%; Pred. No. 0.00044;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTTE 13
|||
DB 54 CNDGLEGCVPTTE 66

RESULT 14
US-09-795-006A-173
Sequence 173, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Aitalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795,006A
PRIOR FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 173
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-173

Query Match 93.0%; Score 66; DB 10; Length 105;
Best Local Similarity 92.3%; Pred. No. 0.00044;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTTE 13
|||
DB 54 CNDGLEGCVPTTE 66

RESULT 15
US-09-925-299-927
Sequence 927, Application US/09925299
Publication No. US20030040617A9
GENERAL INFORMATION:
APPLICANT: Rosen et al
TITLE OF INVENTION: Nucleic Acids, Proteins and Antipodides
FILE REFERENCE: PA102
CURRENT APPLICATION NUMBER: US/09/925,299
CURRENT FILING DATE: 2001-08-10
PRIOR APPLICATION NUMBER: PCT/US00/05883
PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 927
LENGTH: 105
TYPE: PRT
ORGANISM: Homo sapiens
US-09-925-299-927

Query Match 93.0%; Score 66; DB 11; Length 105;

Best Local Similarity 92.3%; Pred. No. 0.00044;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDGLESVPTTE 13
|||
DB 45 CNDGLEGCVPTTE 57

Search completed: January 30, 2004, 12:15:02
Job time : 12.9917 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:34:23 ; Search time 5.6 Seconds
(without alignments)
223.249 Million cell updates/sec

Title: US-09-266-543-8

Perfect score: 71

Sequence: 1 CNDEGLSEVPTEE 13

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	66	93.0	190	2	SS2130
2	66	93.0	232	2	A41551
3	60	84.5	120	2	A33787
4	60	84.5	133	2	B49530
5	60	84.5	146	2	S57956
6	60	84.5	190	2	B40080
7	55	77.5	190	2	B44881
8	55	77.5	190	2	A35987
9	55	77.5	214	2	A44881
10	47	66.2	128	2	I51295
11	45	63.4	187	2	JC4680
12	45	63.4	207	2	JC4679
13	44	62.0	251	2	T08315
14	43	60.6	368	1	BGHUN
15	41	57.7	464	2	T48339
16	41	57.7	1121	2	JQ1631
17	41	57.7	1736	2	T05174
18	40	56.3	173	2	S20003
19	40	56.3	250	2	E87921
20	40	56.3	360	2	S06280
21	40	56.3	369	2	S20811
22	40	56.3	369	2	S32559
23	40	56.3	369	2	S32793
24	40	56.3	606	2	T31557
25	40	56.3	645	2	S51880
26	40	56.3	1006	2	T41104
27	39	56.9	149	2	A41236
28	39	56.9	340	2	T30121
29	39	56.9	354	2	S29145

30	39	54.9	357	2	S24317	decorin precursor
31	39	54.9	437	2	AF3597	fe-s oxidoreductas
32	39	54.9	800	2	T25140	hypothetical prote
33	38	53.5	152	1	DABPT3	adenosylmethionine
34	38	53.5	324	2	A89284	hypothetical prote
35	38	53.5	369	2	F86714	conserved hypothet
36	38	53.5	422	2	G75131	malate oxidoreduct
37	38	53.5	549	2	C83677	L-lactate permease
38	38	53.5	725	2	A83266	conserved hypothet
39	38	53.5	772	2	S62481	hypothetical prote
40	38	53.5	1459	2	G86457	unknown protein, 4
41	37	52.1	64	2	B97138	hypothetical prote
42	37	52.1	83	1	BNRT1	brain neuron cytop
43	37	52.1	137	2	F72608	hypothetical prote
44	37	52.1	295	2	T34572	hypothetical prote
45	37	52.1	315	2	A11413	peptidoglycan anch

ALIGNMENTS

RESULT 1
S52130
vascular endothelial growth factor - pig
C/Species: Sus scrofa domestica (domestic pig)
C/Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
C/Accession: S52130
R/Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
Biochim. Biophys. Acta 1260, 235-238, 1995
A/Title: Nucleotide sequence and expression of the porcine vascular endothelial growth f
A/Reference number: S52130; MUID:95143284; PMID:7841203
A/Accession: S52130
A/Status: preliminary
A/Molecule type: mRNA
A/Residues: 1-190 <SHA>
A/Cross-references: GB:X81380; NID:G587559; PIDN:CAA57143.1; PID:G587560

Query Match 93.0% Score 66; DB 2; Length 190;
Beet Local Similarity 92.3%; Pred. No. 0.00032;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSEVPTEE 13
DB 86 CNDEGLSEVPTEE 98

RESULT 2
A41551
vascular endothelial growth factor 206 precursor - human
N/Alternate names: vascular permeability factor
C/Species: Homo sapiens (man)
C/Date: 28-Aug-1992 #sequence_revision 28-Aug-1992 #text_change 05-Nov-1999
C/Accession: A41551; B41551; A40454; B40454; A40079; A40080; JQ1463; JQ1
R/Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
Mol. Endocrinol. 5, 1806-1814, 1991
A/Title: The vascular endothelial growth factor family: identification of a fourth molec
A/Reference number: A41551; MUID:92168017; PMID:1791831
A/Accession: A41551
A/Molecule type: mRNA
A/Residues: 1-232 <HOU1>
A/Cross-references: GB:S85192; NID:G246155; PID:G246156
A/Accession: C41551
A/Status: nucleic acid sequence not shown
A/Molecule type: mRNA
A/Residues: 1-140, 'N', 183-232 <HOU2>
A/Accession: B41551
A/Status: nucleic acid sequence not shown; not compared with conceptual translation
A/Molecule type: mRNA
A/Residues: 1-141, 227-232 <HOU>
A/Reference: R.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fidge, J.C.; Ab
J. Biol. Chem. 266, 11947-11954, 1991
A/Title: The human gene for vascular endothelial growth factor. Multiple protein forms a

A:Reference number: A40454; MUID:91268072; PMID:1711045
A:Accession: A40454
A:Molecule type: DNA
A:Residues: 1-165,183-232 <T11>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63976; GB:M63977; GB:M63978
A:Accession: B40454
A:Molecule type: DNA
A:Residues: 1-140,'N',183-232 <T12>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63977; GB:M63978
A:Accession: C40454
A:Molecule type: DNA
A:Residues: 1-141,227-232 <T13>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978
R:Kleck, P.U.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D.T.
Science 246, 1309-1312, 1989
A:Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.
A:Reference number: A40079; MUID:90069609; PMID:2479987
A:Accession: A40079
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-165,183-232 <KEC>
A:Cross-references: GB:M67281; NID:G340300; PIDN:AAA36807.1; PID:G340301
R:Leung, D.W.; Cachianes, G.; Kiang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
A:Reference number: A40080; MUID:90069608; PMID:2479986
A:Accession: A40080
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-140,'N',183-232 <LEU>
A:Cross-references: GB:M62977; NID:G181970; PIDN:AAA35789.1; PID:G181971
R:Weineld, K.; Marne, D.; Welch, H.A.
Biochem. Biophys. Res. Commun. 183, 1167-1174, 1992
A:Title: AIDS-associated Kaposi's sarcoma cells in culture express vascular endothelial
A:Accession number: U01463; MUID:92231879; PMID:1567395
A:Accession: U01463
A:Molecule type: mRNA
A:Residues: 1-140,'N',183-232 <WEI>
A:Cross-references: EMBL:X62568; NID:G37658; PIDN:CAA44447.1; PID:G37659
A:Experimental source: AIDS-Kaposi's sarcoma cell
A:Accession: J01464
A:Molecule type: mRNA
A:Residues: 1-140,'N',227-232 <WE2>
A:Experimental source: AIDS-Kaposi's sarcoma cell
R:Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, N.; Hay
J. Biol. Chem. 264, 20017-20024, 1989
A:Title: Human vascular permeability factor. Isolation from U937 cells.
A:Reference number: A34492; MUID:90062112; PMID:2584205
A:Accession: A34492
A:Molecule type: protein
A:Residues: 27-36;43-49,'R',72-76,'Q',78-81;59-71 <CON>
C:Comment: The most common of several alternatively spliced forms is VEGF 165.
C:Genetics:
A:Gene: GDB: VEGF
A:Cross-references: GDB:132244; OMIM:192240
A:Map position: 6p21-6p12
C:Function:
A:Description: promotes fluid and protein leakage from blood vessels
A:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular protein
F:1-332/Product: vascular endothelial growth factor 206 precursor #status predicted <V2>
F:1-165,183-232/Product: vascular endothelial growth factor 189 precursor #status predicted
F:1-141,227-233/Product: vascular endothelial growth factor 121 precursor #status predicted
F:1-26/Domain: signal sequence #status predicted <SIG>
F:101/Binding site:carbohydrate (Abn) (covalent) #status predicted

RESULT 3
A33787
vascular endothelial growth factor (version 1) - bovine
C/Species: Bos primigenius taurus (cattle)
C/Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
C/Accession: A33787
R/Titscher, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Critch-
Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
A/Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
A/Reference number: A33787; MUID:9012125; PMID:2610687
A/Accession: A33787
A/Status: preliminary
A/Molecule type: mRNA
A/Residues: 1-120 <TIS>
A/Cross-references: GB:A33750; NID:g163810; PIDN:AAA30805.1; PID:g163811
C/keywords: alternative splicing

Query Match	84.5%	Score 60	DB 2	Length 120
Best Local Similarity	84.6%	Pred. No. 0.0024		
Matches	11	Conservative	0	Mismatches 2; Indels 0; Gaps 0;
Qy	1	CNDGSLSPVTEE	13	
Db	60	CNDGSLSPVTEE	72	

RESULT 4
B49530
vaccinal endothelial growth factor homolog A2R, 14.7K - Orf virus
C|Species: Orf virus
C|Date: 07-Apr-1994 #sequence_revision 18-Nov-1994 #text_change 08-Oct-1999
C|Accession: B49530
R|Lytle, D.J.; Frazer, K.M.; Fleming, S.B.; Mercer, A.A.; Robinson, A.J.
J. Virol. 68, 84-92, 1994
A|Title: Homologs of vaccinal endothelial growth factor are encoded by the poxvirus orf
A|Reference number: A49530; MUID:94076465; PMID:8254780
A|Contents: N22
A|Accession: B49530
A|Status: preliminary
A|Molecule type: DNA
A|Residues: 1-133 <Lyn>
A|Cross-references: GB:SF67520; NID:g456897; PIDN:AA29220.1; PID:g456899
A|Note: sequence inconsistent with nucleotide translation
A|Note: sequence extracted from NCBI Backbone (NCBI:141420, NCBI:141425)

Query Match	84.5%	Score 60;	DB 2;	Length 133;
Best Local Similarity	84.6%	Pred. No. 0.0026;		
Matches	11;	Conservative	0;	Mismatches 2; Indels 0; Gaps 0;
QY	1	CNDGGLSVPTTE	13	
Db	71	CNDSELCVPTTE	83	

RESULT 5
S57956
ovine vascular endothelial growth factor - sheep
C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C:Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
R:Accession: S57956
R:Reviewer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.
submitted to the EMBL Data Library, July 1995
A:Reference number: S57956
A:Accession: S57956
A:Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-146 <RED>
A:Cross-references: EMBL:X89506; NID:g8893350; PIDN:CA61677.1; PID:5899351

Query Match	84.5%	Score 60:	DB 2:	Length 146:
Best Local Similarity	84.6%	Pred. No.	0.0029,	
Matches 11, Conservative	0:	Mismatches	2:	Indels 0:
				Gaps 0

OY 1 CNDGLESEVPTTEE 13
 |||||
 Db 86 CNDSELECVPTTEE 98

 RESULT 6
 B40080
 Vascular endothelial growth factor precursor (version 2) - bovine
 C:Species: Bos primigenius taurus (cattle)
 C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
 C:Accession: B40080; B33787; A33255
 S:Jenung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
 A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
 A:Reference number: A40080; MUID:90063608; PMID:2479986
 A:Accession: B40080
 A:Molecule type: mRNA
 A:Residues: 1-190 <LE>
 A:Cross-references: GB:M1836; NID:g163806; PIDN:AAA30804.1; PID:g163807
 R:Trichter, E.; Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Cripe
 Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
 A:Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
 A:Reference number: A33787; MUID:90121225; PMID:2610687
 A:Accession: B33787
 A:Molecule type: mRNA
 A:Residues: 27-190 <RTS>
 A:Cross-references: GB:M1836; NID:g163808; PIDN:AAA30804.1; PID:g163809
 R:Ferrara, N.; Henzel, W.J.
 Biochem. Biophys. Res. Commun. 161, 851-858, 1989
 A:Title: Plutitary follicular cells secrete a novel heparin-binding growth factor specific
 A:Reference number: A33255; MUID:89286596; PMID:2735925
 A:Accession: A33255
 A:Molecule type: Protein
 A:Residues: 27-31 <FER>
 A:Keywords: alternative splicing; glycoprotein
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:27-190/Product: vascular endothelial growth factor #status predicted <MAT>
 F:100/Binding site: carbohydrate (asn) (covalent) #status predicted

 Query Match 84.5%; Score 60; DB 2; Length 190;
 Best Local Similarity 84.6%; Pred. No. 0.0038;
 Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

 OY 1 CNDGLESEVPTTEE 13
 |||||
 Db 86 CNDSELECVPTTEE 98

 RESULT 7
 B44881
 Vascular endothelial growth factor-1 precursor - mouse
 C:Species: Mus musculus (house mouse)
 C:Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 05-Nov-1999
 C:Accession: B44881; A43351; A61029
 S:Beier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
 Development 114, 521-532, 1992
 A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
 A:Reference number: A44881; MUID:92274860; PMID:1592003
 A:Accession: B44881
 A:Molecule type: mRNA
 A:Residues: 1-190 <GB>
 A:Cross-references: GB:S38083; NID:g249858; PIDN:AA22253.1; PID:g249859
 A:Experimental source: embryo
 A>Note: Sequence extracted from NCBI backbone (NCBIN:107622, NCBIPI:107623)
 R:Claffey, K.P.; Wilson, W.O.; Siegelman, B.M.
 J. Biol. Chem. 267, 16317-16322, 1992
 A:Title: Vascular endothelial growth factor. Regulation by cell differentiation and activ
 A:Reference number: A43351; MUID:92355593; PMID:1644816
 A:Accession: A43351
 A:Molecule type: mRNA
 A:Residues: 1-116; ER, 119-190 <CLA>
 A:Cross-references: GB:M55200; NID:g202350; PIDN:AAA40547.1; PID:g202351

A>Note: sequence extracted from NCBI backbone (NCBIN:110665; NCBIP:110675)
R.Rosenthal R.A.; Meyeres J.F.; Henzel W.U.; Perrata, N.; Folkman, J.
Growth Factors 4, 53-59, 1990
A>Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial g
A:Reference number: A61029; MUID:91197543; PMID:2085441
A:Accession: A61029
A:Molecule type: protein
A:Residues: 27-38 <ROS>
C:keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mit

Query Match 77.5%; Score 55; DB 2; Length 190;
Best Local Similarity 76.9%; Pred. No. 0.03;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDGLESLVPTSE 13
||| ||| |||
DB 86 CNDLEALCVPTSE 98

RESULT 8
A35987
glioma-derived vascular endothelial cell growth factor - rat
C:Species: Rattus norvegicus (Norway rat)
C:date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
C:Accession: A35987
R:Comm, G.; Bayne, M.L.; Soderman, D.D.; Krok, P.W.; Sullivan, K.A.; Palist, T.M.; Hope,
Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
A>Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is ho
A:Reference number: A35987; MUID:90207249; PMID:2320579
A:Accession: A35987
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-190 <CON>
A:Cross-references: GB:M32167; MID:9204287; PIDN:AAA41211.1; PID:g204288

Query Match 77.5%; Score 55; DB 2; Length 190;
Best Local Similarity 76.9%; Pred. No. 0.03;
Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDGLESLVPTSE 13
||| ||| |||
DB 86 CNDLEALCVPTSE 98

RESULT 9
A44881
vascular endothelial growth factor-3 precursor - mouse
N:Contains: vascular endothelial growth factor-2; vascular permeability factor
C:Species: Mus musculus (house mouse)
C:date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 08-Oct-1999
C:Accession: A44881; C44881; A60932; S52136
R:Brieler, G.; Albrecht, U.; Sterrer, S.; Risau, W.
Development 114, 521-532, 1992
A>Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
A:Reference number: A44881; MUID:92274860; PMID:1592003
A:Accession: A44881
A:Molecule type: mRNA
A:Residues: 1-214 <BRB>
A:Cross-references: GB:S17052; MID:g249856; PIDN:AAB22252.1; PID:g249857
A:Experimental source: embryo
A>Note: Sequence extracted from NCBI backbone (NCBIN:104677, NCBIP:104678).
A:Accession: C44881
A:Molecule type: mRNA
A:Residues: 1-140,209-214 <BR2>
A:Cross-references: GB:S18100; MID:g249860; PIDN:AAB22254.1; PID:g249861
A>Note: Sequence extracted from NCBI backbone (NCBIN:107624, NCBIP:107625)
R:Clausen, M.; Gerlach, M.; Gerlach, H.; Bretz, J.; Wang, F.; Familletti, P.C.; Pan, Y.C.
J. Exp. Med. 172, 1535-1545, 1990
A>Title: Vascular permeability factor: a tumor-derived polypeptide that induces endothe
A:Reference number: A60932; MUID:91079755; PMID:2258694
A:Accession: A60932
A:Molecule type: protein
A:Residues: 27-33 <CLA>

R:Sugihara, T.; Kaul, S.C.; Mitsu, Y.; Madhwa, R.
 Biochim. Biophys. Acta 1224, 365-370, 1994
 A>Title: Enhanced expression of multiple forms of VEGF is associated with spontaneous in
 A:Reference number: S52136; MUID:95101726; PMID:7803491
 A:Accession: S52136
 A:Status: preliminary
 A:Molecule type: protein
 A:Residues: 27-46 <SIG>
 C:Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
 C:Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homodimer;
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:127-214/Product: vascular endothelial growth factor-3 #status experimental <MAY>

Query Match 77.5%; Score 55; DB 2; Length 214;
 Best Local Similarity 76.9%; Pred. No. 0.034;
 Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDEGLSVPTSE 13
 |||||
 DB 86 CNDEGLSVPTSE 98

RESULT 10
 151295
 A:Title: Vascular endothelial growth factor - quail (fragment)
 C:Species: Phasianidae gen. sp. (quail)
 C>Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 28-Feb-1997
 C:Accession: 151295
 R:Flamme, I.; Breiter, G.; Risa, W.
 Dev. Biol. 169, 699-712, 1995
 A>Title: Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (Flk-1) are expre
 A:Reference number: 151295; MUID:95301109; PMID:7781909
 A:Accession: 151295
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-128 <FLA>
 A:Cross-references: GB:S78343; NID:9999147; PID:9999148
 C:Genetics:
 A:Gene: VEGF

Query Match 66.2%; Score 47; DB 2; Length 128;
 Best Local Similarity 66.7%; Pred. No. 0.53;
 Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDEGLSVPTSE 12
 |||||
 DB 28 CGDBGLSVPTSE 39

RESULT 11
 J04680
 A:Title: Vascular endothelial growth factor-related factor 167 precursor - mouse
 N:Alternate names: VRF 167 protein
 C:Species: Mus musculus (house mouse)
 C>Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
 C:Accession: J04680
 R:Tomson, S.; Lagercrantz, J.; Grimmond, S.; Sillins, G.; Nordenkjöld, M.; Weber, G.;
 Biochem. Biophys. Res. Commun. 220, 922-928, 1996
 A>Title: Characterization of the murine VEGF-related factor gene.
 A:Reference number: J04679; MUID:96183052; PMID:8607868
 A:Accession: J04680
 A:Molecule type: mRNA
 A:Residues: 1-188 <TOM>
 A:Cross-references: GB:U43837; NID:91314335; PIDN:AA052553.1; PID:91314336
 C:Comment: This factor is a mitogen, that is selective for endothelial cells, and belong
 at endothelial growth factors 167 and VEGF 186.
 C:Genetics:
 A:Gene: vrf
 A:Map position: 19
 A:Introns: 137/2
 F:1-21/Domain: signal sequence #status predicted <SIG>
 F:122-188/Product: vascular endothelial growth factor-related factor #status predicted <M

Query Match 63.4%; Score 45; DB 2; Length 188;
 Best Local Similarity 72.7%; Pred. No. 1.8;
 Matches 8; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNDEGLSVPT 11
 |||||
 DB 82 CPDGLSVPT 92

RESULT 12
 J04679
 A:Title: Vascular endothelial growth factor-related factor 186 precursor - mouse
 N:Alternate names: VRF 186 protein, VEGF 186
 C:Species: Mus musculus (house mouse)
 C>Date: 10-May-1996 #sequence_revision 19-Jul-1996 #text_change 05-Nov-1999
 C:Accession: J04679
 R:Tomson, S.; Lagercrantz, J.; Grimmond, S.; Sillins, G.; Nordenkjöld, M.; Weber, G.;
 Biochem. Biophys. Res. Commun. 220, 922-928, 1996
 A>Title: Characterization of the murine VEGF-related factor gene.
 A:Reference number: J04679; MUID:96183052; PMID:8607868
 A:Accession: J04679
 A:Molecule type: mRNA
 A:Residues: 1-207 <TOM>
 A:Cross-references: GB:U43836; NID:91703480; PIDN:AA052932.1; PID:91314334
 C:Comment: This factor is a mitogen, that is selective for endothelial cells, and belong
 lar endothelial growth factors 167 and 186.
 C:Genetics:
 A:Gene: vrf
 A:Map position: 19
 A:Keywords: growth factor
 F:1-21/Domain: signal sequence #status predicted <SIG>
 F:122-207/Product: vascular endothelial growth factor related factor #status predicted <M

Query Match 63.4%; Score 45; DB 2; Length 207;
 Best Local Similarity 72.7%; Pred. No. 2;
 Matches 8; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNDEGLSVPT 11
 |||||
 DB 82 CPDGLSVPT 92

RESULT 13
 T08315
 A:Title: Hypothetical protein H1185 [imported] - Halobacterium sp. (strain NRC-1) plasmid pNRC100
 C:Species: Halobacterium sp.
 A:Variety: strain NRC-1
 C>Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 03-Nov-2000
 C:Accession: T08315
 R:Ng, W.V.; Clufo, S.A.; Smith, T.M.; Bungarner, R.E.; Baeklin, D.; Faust, J.; Hall, B.; U
 Genome Res. 8, 1131-1141, 1998
 A>Title: Snapshot of a large dynamic replicon in a halophilic Archaeon: megaplasmid or p
 A:Reference number: Z16408; MUID:99063795; PMID:9847077
 A:Accession: T08315
 A:Status: translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-251 <DAS>
 A:Cross-references: EMBL:AF016485; NID:92822278; PID:92822376; HALOSP:H1185
 A:Experimental source: strain NRC-1
 C:Genetics:
 A:Gene: HALOSP:H1185
 A:Genome: plasmid pNRC100
 C:Superfamily: Halobacterium plasmid pNRC100 hypothetical protein H1185

Query Match 62.0%; Score 44; DB 2; Length 251;
 Best Local Similarity 70.0%; Pred. No. 3.7;
 Matches 7; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

OY 1 CNDEGLSVPT 10
 |||||
 DB 96 CNDGLSVPT 105

RESULT 14

BGHUN
 biglycan precursor - human
 N.Alternate names: cartilage proteoglycan I; dermatan sulfate proteoglycan I (DS-PG1); F
 C.Species: Homo sapiens (man)
 C.Date: 21-Apr-1992 #sequence revision 26-May-1995 #text change 28-Jan-2000
 C.Accession: A40757; 138706; A32458; S14349; S05639; A28457
 R.Fisher, L.W.; Heegard, A.M.; Vetter, U.; Vogel, W.; Just, W.; Termini, J.D.; Young, M
 J. Biol. Chem. 266:14371-14377, 1991
 A.Title: Human biglycan gene. Putative promoter, intron-exon junctions, and chromosomal
 A.Reference number: A40757; MUID:91317791; PMID:1860845
 A.Accession: A40757
 A.Molecule type: DNA
 A.Residues: 1-368 <FS1>
 A.Cross-references: GB:M65151; NID:9179428; GB:M65152; NID:9179429; GB:M65153; NID:91794
 A.Note: the translated sequence in Genbank entry HUMBGN3, release 113.0, (PIDN:AAA52287;
 d not the DNA) and 26 residues inserted after residue 80 (apparently from a misread sp1
 R.Just, W.; Rau, W.; Muller, R.; Geerikens, C.; Vogel, W.
 Hum. Mol. Genet. 3, 2268, 1994
 A.Title: Dinucleotide repeat polymorphism at the human biglycan (BGN) locus.
 A.Reference number: 138706; MUID:95187185; PMID:7881444
 A.Accession: 138706
 A>Status: preliminary; translated from GB/EMBL/DBJ
 A.Molecule type: mRNA
 A.Residues: 361-368 <US>
 A.Cross-references: EMBL:U11686; NID:9607862; PIDN:AAC50117.1; PID:9619663
 R.Fisher, L.W.; Termini, J.D.; Young, M.F.
 J. Biol. Chem. 264, 4571-4576, 1989
 A.Title: Deduced protein sequence of bone small proteoglycan I (Biglycan) shows homology
 A.Reference number: A32458; MUID:89174714; PMID:2647739
 A.Accession: A32458
 A.Molecule type: mRNA
 A.Residues: 1-138, 'NV', 141-162, 'DV', 165-368 <FS2>
 A.Cross-references: GB:J04559; NID:9184339
 A.Note: parts of this sequence, including the amino end of the mature protein, were dete
 A.Note: the translated sequence in Genbank entry HUMMPG1, release 113.0, (PIDN:AAA36009;
 R.Stoecker, G.; Meyer, H.B.; Wegener, C.; Grelling, H.
 Biochem. J. 274, 415-420, 1991
 A.Title: Purification and N-terminal amino acid sequence of a chondroitin sulphate/derma
 A.Reference number: S14349; MUID:91174749; PMID:1848758
 A.Accession: S14349
 A.Molecule type: protein
 A.Residues: 38-57 <STO>
 A.Experimental source: aorta
 R.Roughley, P.J.; White, R.J
 Biochem. J. 262, 823-827, 1989
 A.Title: Dermatan sulphate proteoglycans of human articular cartilage. The properties of
 A.Reference number: S05639; MUID:90073579; PMID:2590169
 A.Accession: S05639
 A.Molecule type: protein
 A.Residues: 38-41, 'X', 43-46, 'X', 48-57 <ROU>
 R.Fisher, L.W.; Hawkins, G.R.; Tuross, N.; Termini, J.D.
 J. Biol. Chem. 262, 9702-9708, 1987
 A.Title: Purification and partial characterization of small proteoglycans I and II, bone
 A.Reference number: A32656; MUID:87250639; PMID:3597437
 A.Accession: A32657
 A.Molecule type: protein
 A.Residues: 38-41, 'X', 43-62, 'X', 64-66 <FIS3>
 A.Experimental source: bone
 C.Genetics:
 A.Gene: GDB: BGN
 A.Cross-references: GDB:119727; OMIM:301870
 A.Map position: Xq28-Xq28
 A.Introns: 80/1, 117/3, 189/1, 226/1, 257/2, 303/3
 C.Superfamily: decorin; leucine-rich alpha-2-glycoprotein repeat homology; proteoglycan
 C.Keywords: chondroitin sulfate proteoglycan; dermatan sulfate; duplication; extracellular
 F.1-16/Domain: signal sequence #status predicted <PRO>
 F.17-37/Domain: propeptide #status predicted <PRO>
 F.38-368/Product: biglycan #status predicted <MAT>
 F.57-81/Domain: proteoglycan amino-terminal homology <PAH>
 F.91-114/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR1>
 F.115-138/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR2>
 F.139-159/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR3>

F.160-183/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR4>
 F.184-207/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR5>
 F.209-229/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR6>
 F.230-253/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR7>
 F.254-277/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR8>
 F.278-300/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR9>
 F.301-315/Domain: leucine-rich alpha-2-glycoprotein repeat homology <LRR9>
 F.316-368/Domain: proteoglycan carboxyl-terminal homology <PCH>
 F.42, 47/Binding site: dermatan sulfate (Ser) (covalent) #status experimental
 F.180,199/Binding site: dermatan sulfate (Ser) (covalent) #status predicted
 F.1270,311/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match

Best Local Similarity 60.6%; Score 43; DB 1; Length 368;
 Matches 8; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNDEGLSEVPTPE 12
 ||:|||||
 DB 76 CSDGLKSPPE 87

RESULT 15

T48339
 hypothetical protein F15A17.210 - Arabidopsis thaliana

C.Species: Arabidopsis thaliana (mouse-ear cress)

C.Date: 20-Apr-2000 #sequence revision 20-Apr-2000 #text change 20-Apr-2000

C.Accession: T48339

R.Bevan, M.; Terry, N.; Ardiles, W.; Buysaert, C.; Dasseville, R.; De Clerck, R.; De
 ewes, H.W.; Rudd, S.; Lemcke, K.; Mayer, K.F.X.

submitted to the Protein Sequence Database, April 2000

A.Reference number: 22491

A.Accession: T48339

A>Status: preliminary

A.Molecule type: DNA

A.Residues: 1-464 <BEV>

A.Cross-references: EMBL:AL163002

A.Experimental source: cultivar Columbia; BAC clone F15A17

C.Genetics:

A.Map position: 5

A.Introns: 24/3; 176/3; 233/1; 385/1; 415/3

A.Note: F15A17.210

Query Match 57.7%; Score 41; DB 2; Length 464;

Best Local Similarity 66.7%; Pred. No. 24;

Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 NDEGLSEVPTPE 13
 ||:|||||

DB 235 NDDGGEVPEEE 246

Search completed: January 30, 2004, 11:46:17
 Job time : 5.6 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:48 ; Search time 3 seconds

(without alignments)
203.782 Million cell updates/sec

Title: US-09-266-543-8

Perfect score: 71

Sequence: 1 CNDEGLSVPTSE 13

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 127863 seqs, 47026705 residues

Total number of hits satisfying chosen parameters: 127863

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SwissProt_41.*

Pred. No. is the number of results predicted by chance to have a

score greater than or equal to the score of the result being printed,

and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	66	93.0	190	VEGA_PIG	P49151 sus scrofa
2	66	93.0	214	VEGA_CANFA	Q9mrv3 canis fam1
3	66	93.0	232	VEGA_HUMAN	P15692 homo sapien
4	60	84.5	133	VEGA_ORFN2	P15284 orf virus (
5	60	84.5	146	VEGA_SHEEP	P50412 ovis aries
6	60	84.5	164	VEGA_CAVPO	P26617 cavia porce
7	60	84.5	190	VEGA_BOVIN	P15691 bos taurus
8	60	84.5	190	VEGA_HORSE	Q9gxr0 equus cabal
9	55	77.5	214	VEGA_MOUSE	Q00731 mus musculu
10	55	77.5	214	VEGA_MOUSE	P16612 rattus norv
11	50	70.4	190	VEGA_MESAU	Q99881 mesocricetu
12	47	66.2	216	VEGA_CHICK	P52582 gallus gall
13	46	64.8	246	FLR1_HUMAN	Q9nui1 homo sapien
14	45	63.4	207	VEGA_BOVIN	Q9x649 bos taurus
15	45	63.4	207	VEGA_HUMAN	P49765 homo sapien
16	45	63.4	207	VEGA_MOUSE	P49766 mus musculu
17	43	60.6	368	PGS1_HUMAN	P21810 homo sapien
18	42	59.2	379	ASPR_HUMAN	Q9bkm1 homo sapien
19	42	56.3	135	VEGA_RAT	Q35485 rattus norv
20	40	56.3	158	PLGF_MOUSE	P49764 mus musculu
21	40	56.3	272	PGS1_PIG	Q9gq66 sus scrofa
22	40	56.3	360	PGS2_BOVIN	P21793 bos taurus
23	40	56.3	360	PGS2_SHEEP	Q9tce2 ovis aries
24	40	56.3	369	PGS1_BOVIN	P21809 bos taurus
25	40	56.3	369	PGS1_CANFA	Q02678 canis fam1
26	40	56.3	369	PGS1_MOUSE	P28653 mus musculu
27	40	56.3	369	PGS1_RAT	P47853 rattus norv
28	40	56.3	369	PGS1_SHEEP	Q46390 ovis aries
29	40	56.3	372	PGS1_HORSE	Q46403 equus cabal
30	40	56.3	515	PDI_ASFOR	O00248 aspergillus
31	40	56.3	649	FLR3_HUMAN	Q9nui0 homo sapien
32	39	54.9	221	PLGF_HUMAN	P49763 homo sapien
33	39	54.9	354	PGS2_RAT	Q01129 rattus norv

ALIGNMENTS

RESULT 1	VEGA_PIG	STANDARD;	PRT;	190 AA.
AC	P49151; O9GL52;			
DT	01-FEB-1996 (Rel. 33, Created)			
DT	01-FEB-1996 (Rel. 33, Last sequence update)			
DT	28-FEB-2003 (Rel. 41, Last annotation update)			
DB	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).			
GN	VEGF OR VEGFA.			
OS	Sus scrofa (Pig).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.			
OX	NCBI_TaxID=9823;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RC	TISSUE=Heart;			
RX	MEDLINE=95143284; PubMed=7841203;			
RA	Sharma H.S., Tang Z.H., Gho B.C.H., Verdouw P.D.;			
RT	"Nucleotide sequence and expression of the porcine vascular endothelial growth factor";			
RL	Biochim. Biophys. Acta 1260:235-238(1995).			
RN	[2]			
RP	SEQUENCE FROM N.A.			
RA	Lee T., Cauty J.M.;			
RT	"PCR cloning of porcine cardiac vascular endothelial growth factor gene";			
RL	Submitted (NOV-2000) to the EMBL/Genbank/DDSI databases.			
CC	-1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).			
CC	-1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PLGF (By similarity).			
CC	-1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).			
CC	-1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.			
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CC	EMBL; X81380; AAC57143.1; -			
CC	EMBL; AF118502; GAAG33064.1; -			
CC	PIR; S52130; S52130.			
CC	HSSP; P15692; IVEG.			
CC	InterPro; IPR000072; PD_growth_factor.			
CC	Pfam; PF00341; PDGF; 1.			
CC	ProDom; PD001629; PD_growth_factor; 1.			

Q9d668 coturnix co
P28675 gallus gall
P54889 c probale
P07693 bacterioph
Q90x42 gallus gall
Q99p18 mus musculu
Q09830 schizosacch
Q9ujq4 homo sapien
P02683 rattus norv
Q9x647 bos taurus
Q62092 mus musculu
Q8xc69 chlorobium

```

DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 129
FT DISULFID 85 85
FT CARBOHYD 100 100
FT CONFLICT 102 102
SQ SEQUENCE 190 AA; 22368 MM; 04D408BD7913047F CRC64;

Query Match 93.0%; Score 66; DB 1; Length 190;
Best Local Similarity 92.3%; Pred. No. 8.2e-05;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Cy 1 CNDGLESVPTEE 13
Db 86 CNDGSLCVPTEE 98

RESULT 2
VEGA CANPA STANDARD; PRT; 214 AA.
AC Q9MYV3; Q9XSF3; Q9XSP4; Q9XSF5;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Canis familiaris (Dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxId=9615;
RN [1]
RN SEQUENCE FROM N.A. (ISOFORM VEGF-188).
RX MEDLINE=20125516; PubMed=10661874;
RA Scheidegger P., Weiglhofer W., Suarez S., Kaser-Holz B., Steiner R.,
RA Ballmer-Hofer K., Jauset R.;
RT "Vascular endothelial growth factor (VEGF) and its receptors in tumor-
bearing dogs.";
RL Biol. Chem. 380:1449-1454(1999).
RN [2]
RN SEQUENCE FROM N.A. (ISOFORMS VEGF-188; VEGF-182 AND VEGF-164).
RC TISSUE=Heart;
RA Jijiang L., Rong R.S.;
RL Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
endothelial cell growth. It induces endothelial cell
proliferation, promotes cell migration, inhibits apoptosis, and
induces permeabilization of blood vessels. It binds to the
VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
to the extracellular matrix unless released by heparin (By
similarity).
CC -1- ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=3;
Name=VEGF-188;
Name=Q9MYV3-1; Sequence=Displayed;
Name=VEGF-182;
Name=Q9MYV3-2; Sequence=VSP_004617;
Name=VEGF-164;
Name=Q9MYV3-3; Sequence=VSP_004615;
Name=Q9MYV3-3; Sequence=VSP_004616;
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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CC -----
DR EMBL; AJ133758; CAB82426.1; -
DR EMBL; AF133250; AAD29684.1; -
DR EMBL; AF133249; AAD29683.1; -
DR EMBL; AF133248; AAD29682.1; -
DR HSSP; P15692; 1VGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF; 1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL 1 26
FT CHAIN 27 214
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
FT VARSPLIC 140 140
FT VARSPLIC 141 164
FT VARSPLIC 159 164
FT VARSPLIC 143 143
FT CONFLICT 161 161
FT CONFLICT 161 161
SQ SEQUENCE 214 AA; 25175 MM; 0AC980A158C44827 CRC64;

Query Match 93.0%; Score 66; DB 1; Length 214;
Best Local Similarity 92.3%; Pred. No. 9.3e-05;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Cy 1 CNDGLESVPTEE 13
Db 86 CNDGSLCVPTEE 98

RESULT 3
VEGA HUMAN STANDARD; PRT; 233 AA.
AC P15692; O60720; O75875; Q16889; Q96WV5; Q9H1W8; Q9H1W9; Q9UH58;
AC Q9UJ23;
DT 01-APR-1990 (Rel. 14, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_TaxId=9606;
RN [1]
RN SEQUENCE FROM N.A. (ISOFORMS VEGF189 AND VEGF165).
RX MEDLINE=90069608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kuang W.-D., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic
mitogen.";
RL Science 246:1306-1309(1999).
RN [2]
RN SEQUENCE FROM N.A. (ISOFORM VEGF189), AND PARTIAL SEQUENCE.

```

RX MEDLINE=90063609; PubMed=2479987;
 RA Keck P.J., Hauser S.D., Krivi G., Sanzo K., Warren T., Feder J.,
 RA Connolly D.T.;
 RT "Vascular permeability factor, an endothelial cell mitogen related to
 RT PDGF.", 246:1309-1312(1989).
 RL Science. 246:1309-1312(1989).
 RN [3]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF189).
 RX MEDLINE=91268072; PubMed=1711045;
 RA Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,
 RA Fiddes J.C., Abraham J.A.;
 RT "The human gene for vascular endothelial growth factor. Multiple
 RT protein forms are encoded through alternative exon splicing.";
 RL J. Biol. Chem. 266:11947-11954(1991).
 RN [4]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF206).
 RX MEDLINE=92168017; PubMed=1791831;
 RA Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.,
 RT "The vascular endothelial growth factor family: identification of a
 RT fourth molecular species and characterization of alternative splicing
 RT of RNA.";
 RL Mol. Endocrinol. 5:1806-1814(1991).
 RN [5]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RX MEDLINE=92231879; PubMed=1567395;
 RA Weindel K., Marme D., Welch H.A.;
 RT "AIDS-associated Kaposi's sarcoma cells in culture express vascular
 RT endothelial growth factor";
 RL Biochem. Biophys. Res. Commun. 183:1167-1174(1992).
 RN [6]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF145).
 RX MEDLINE=97207275; PubMed=9054410;
 RA Poltorak Z., Cohen T., Sivan R., Kandelis Y., Spira G., Vladavsky I.,
 RA Keshet E., Neufeld G.;
 RT "VEGF145, a secreted vascular endothelial growth factor isoform that
 RT binds to extracellular matrix.";
 RL J. Biol. Chem. 272:7151-7158(1997).
 RN [7]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF183).
 RX MEDLINE=9906474; PubMed=9878851;
 RA Lei J., Jiang A., Pei D.;
 RT "Identification and characterization of a new splicing variant of
 RT vascular endothelial growth factor: VEGF183.";
 RL Biochim. Biophys. Acta 1443:400-406(1998).
 RN [8]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RX MEDLINE=98119755; PubMed=9450968;
 RA Claffey K.P., Shih S.-C., Mullen A., Dziennis S., Cusick J.L.,
 RA Abrams K.R., Lee S.W., Detmar M.;
 RT "Identification of a human VPF/VEGF 3' untranslated region mediating
 RT hypoxia-induced mRNA stability.";
 RL Mol. Biol. Cell 9:469-481(1998).
 RN [9]
 RP SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
 RX MEDLINE=99165303; PubMed=10067980;
 RA Jingjing U., Xue Y., Agarwal N., Rogue R.S.;
 RT "Human Muller cells express VEGF183, a novel spliced variant of
 RT vascular endothelial growth factor.";
 RL Invest. Ophthalmol. Vis. Sci. 40:752-759(1999).
 RN [10]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RX MEDLINE=99165303; PubMed=10067980;
 RA Jingjing U., Xue Y., Agarwal N., Rogue R.S.;
 RT "Human Muller cells express VEGF183, a novel spliced variant of
 RT vascular endothelial growth factor.";
 RL Invest. Ophthalmol. Vis. Sci. 40:752-759(1999).
 RN [11]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF148).
 RX MEDLINE=99394945; PubMed=10464055;
 RX MEDLINE=99394945; PubMed=10464055;

RA Whittle C.J., Gillespie K.M., Harrison R., Mathieson P.W.,
 RA Harper S.J.;
 RT "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA
 RT and receptor mRNA expression in human glomeruli, and the
 RT identification of VEGF148 mRNA, a novel truncated splice variant.";
 RL Clin. Sci. 97:303-312(1999).
 RN [12]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF121).
 RA Sato J.D., Whitney R.G.;
 RT "Human cDNA for vascular endothelial growth factor isoform VEGF121.";
 RL Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 RN [13]
 RP SEQUENCE FROM N.A.
 RX Submitted (DEC-2000) to the EMBL/GenBank/DBJ databases.
 RN [14]
 RP SEQUENCE OF 23-232 FROM N.A. (VEGF165).
 RA Rieder M.J., Armet T.Z., Carrington D.P., Chung M.-W., Lee K.L.,
 RA Poel C.L., Toth E.J., Yi Q., Nickerson D.A.;
 RL Submitted (OCT-2001) to the EMBL/GenBank/DBJ databases.
 RN [15]
 RP PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
 RX MEDLINE=90062112; PubMed=2584205;
 RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monsell R.,
 RA Siegel N., Haymore B.L., Leimgruber R., Feder J.;
 RT "Human vascular permeability factor. Isolation from U937 cells.";
 RL J. Biol. Chem. 264:20017-20024(1989).
 RN [16]
 RP SEQUENCE OF 27-41.
 RX MEDLINE=93145946; PubMed=7678805;
 RA Fieblisch B.L., Jaeger B., Schoellmann C., Weindel K., Wiltling J.,
 RA Koehs G., Marme D., Hug H., Welch H.A.;
 RT "Synthesis and assembly of functionally active human vascular
 RT endothelial growth factor homodimers in insect cells.";
 RL Eur. J. Biochem. 211:19-26(1993).
 RN [17]
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
 RX MEDLINE=97352774; PubMed=9207067;
 RA Muller Y.A., Li B., Christinger H.W., Welle J.A., Cunningham B.C.,
 RA de Vos A.M.;
 RT "Vascular endothelial growth factor: crystal structure and functional
 RT mapping of the kinase domain receptor binding site";
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197(1997).
 RN [18]
 RP X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
 RX MEDLINE=98035455; PubMed=9351807;
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.;
 RT "The crystal structure of vascular endothelial growth factor (VEGF)
 RT refined to 1.93-A resolution: multiple copy flexibility and receptor
 RT binding";
 RL Structure 5:1325-1338(1997).
 RN [19]
 RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RX MEDLINE=99119204; PubMed=9922142;
 RA Wiseman C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.;
 RT "Crystal structure of the complex between VEGF and a receptor-blocking
 RT peptide";
 RL Biochemistry 37:17765-17772(1998).
 RN [20]
 RP STRUCTURE BY NMR OF 34-135.
 RX MEDLINE=97477915; PubMed=9336848;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovaasnik M.A.;
 RT "1H, 13C, and 15N backbone assignment and secondary structure of the
 RT receptor-binding domain of vascular endothelial growth factor";
 RL Protein Sci. 6:2250-2260(1997).
 RN [21]
 RP STRUCTURE BY NMR OF 137-215.
 RX MEDLINE=98298440; PubMed=9634701;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovaasnik M.A.;
 RT "Solution structure of the heparin-binding domain of vascular

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RT endothelial growth factor."
RL Structure 6:637-648(1998).
RN [22]
RP FUNCTION.
RX MEDLINE=21320570; PubMed=11427521;
RA Murphy J.F., Fitzgerald D.J.;
RT "Vascular endothelial growth factor induces cyclooxygenase-dependent
proliferation of endothelial cells via the VEGF-2 receptor."
RL FASEB J. 15:1667-1669(2001).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
endothelial cell growth. It induces endothelial cell
proliferation, promotes cell migration, inhibits apoptosis, and
induces permeabilization of blood vessels. It binds to the
VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
heparin. Neuropilin-1 binds isoforms VEGF-165 and VEGF-145.
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: VEGFR2 is acidic and freely secreted.
VEGFR1 is more basic, has heparin-binding properties and,
although a significant proportion remains cell-associated, most is
freely secreted. VEGFR1 is very basic; it is cell-associated
after secretion and is bound avidly by heparin and the
extracellular matrix, although it may be released as a soluble
form by heparin, heparinase or plasmin.
CC -1- ALTERNATIVE PRODUCTS:
Event=Alternative splicing; Named isoforms=7;
Comment=Experimental confirmation may be lacking for some
isoforms;
Name=VEGF206;
IsoId=P15692-1; Sequence=Displayed;
Name=VEGF189;
IsoId=P15692-2; Sequence=VSP_004622;
Query Match 93.0%; Score 66; DB 1; Length 232;
Best Local Similarity 92.3%; Pred. No. 0.0001;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 CNDGLESVPTPE 13
DB 87 CNDGLESVPTPE 99
RESULT 4
VEGH ORFN2 STANDARD; PRT; 133 AA.
AC P52584.1
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 16-OCT-2001 (Rel. 40, Last annotation update)
DE Vascular endothelial growth factor homolog precursor.
GN A2R.
OS Oryzias latipes (strain NZ-2) (OV NZ-2).
OC Viruses; dsDNA viruses, no RNA stage; Poxviridae; Chordopoxvirinae;
Parapoxvirus.
OX NCBI_TaxID=10259;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=94076465; PubMed=8254780;
RA Lytle D.J., Frazer K.M., Fleming S.B., Mercer A.A., Robinson A.J.;
RT "Homologs of vascular endothelial growth factor are encoded by the
poxvirus of virus."
RL J. Virol. 68:84-92(1994).
CC -1- FUNCTION: INDUCES ENDOTHELIAL PROLIFERATION.
CC -1- SUBUNIT: Homodimer; disulfide-linked (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC EMBL: S67520; AAB29220.2; -.
DR HSSP; P15692; IVP.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS02076; PDGF_2; 1.
KM Mitogen; Growth factor; Glycoprotein; Signal.
FT SIGNAL 1 20
FT CHAIN 21 133
FT DISULFID 36 78
FT DISULFID 67 112
FT DISULFID 71 114
FT DISULFID 61 61
FT DISULFID 70 70
FT CARBOHYD 85 85
SQ SEQUENCE 133 AA; 14715 MW; 917C0F68830C39 CRC64;
Query Match 84.5%; Score 60; DB 1; Length 133;
Best Local Similarity 84.6%; Pred. No. 0.00069;
Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
QY 1 CNDGLESVPTPE 13
DB 71 CNDGLESVPTPE 83
RESULT 5
VEGA SHEEP STANDARD; PRT; 146 AA.
AC P50412.1
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Ox.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE FROM N.A.
RX TISSUE=Kidney;
RX MEDLINE=97117958; PubMed=8958842;
RA Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K.,
Reynolds L.P., Moor R.M.;
RT "Characterization and expression of vascular endothelial growth
factor (VEGF) in the ovine corpus luteum."
RL J. Reprod. Fert. 108:157-165(1996).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
endothelial cell growth. It induces endothelial cell
proliferation, promotes cell migration, inhibits apoptosis, and
induces permeabilization of blood vessels. It binds to the
VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
with PlGF (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
-----
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or send an email to license@isb-sib.ch).
EMBL: X89506; CAA61677.1; -.

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DR PIR, S57956; S57956.
 DR HSP, P15692; 1VP.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF_1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF_1.
 DR PROSITE: PS00249; PDGF_1; 1.
 DR PROSITE: PS0278; PDGF_2; 1.
 DR Mitogen: Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Multigene family
 FT SIGNAL 1 26 BY SIMILARITY.
 FT CHAIN 27 146 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 51 93 BY SIMILARITY.
 FT DISULFID 82 127 BY SIMILARITY.
 FT DISULFID 86 129 BY SIMILARITY.
 FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
 SQ SEQUENCE 146 AA; 17247 MW; 4E792CB557F91760 CRC64;

Query Match 84.5%; Score 60; DB 1; Length 146;
 Best Local Similarity 84.6%; Pred. No. 0.00077;
 Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CNDGLESVPTEE 13
 Db 86 CNDGLESVPTEE 98

RESULT 6
 ID VEGA_CAVPO STANDARD; PRT; 164 AA.
 AC P26617;

DT 01-AUG-1992 (Rel. 23, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.

OS Cavia porcellus (Guinea pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
 OX NCBI_TaxID=10141;

RN [1]
 RC SEQUENCE FROM N.A.
 RP TISSUE-Bile duct;

RA Berse B.;
 RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.

CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial cell growth. Induces endothelial proliferation and vascular permeability (By similarity).

CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PLGF (By similarity).

CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).

CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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CC EMBL; M84230; AAA37057.1; -.
 DR HSP; P15692; 1VGH.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.

DR PROSITE; PS50278; PDGF_2; 1.
 KW Mitogen: Angiogenesis; Growth factor; Glycoprotein.
 FT DISULFID 25 67 BY SIMILARITY.
 FT DISULFID 56 101 BY SIMILARITY.
 FT DISULFID 60 103 BY SIMILARITY.
 FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 74 74 N-LINKED (GLCNAC. . .) (POTENTIAL).
 SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DCA4 CRC64;

Query Match 84.5%; Score 60; DB 1; Length 164;
 Best Local Similarity 84.6%; Pred. No. 0.00087;
 Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CNDGLESVPTEE 13
 Db 60 CNDGLESVPTEE 72

RESULT 7

ID VEGA_BOVIN STANDARD; PRT; 190 AA.
 AC P15691;

DT 01-APR-1990 (Rel. 14, Created)
 DT 01-APR-1990 (Rel. 14, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.

OS Bos taurus (Bovine).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OX Bovidae; Bovinae; Bos.
 OX NCBI_TaxID=9913;

RN [1]
 RC SEQUENCE FROM N.A., AND SEQUENCE OF 27-47.

RP MEDLINE=90063608; PubMed=2479986;

RA Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;

RT "Vascular endothelial growth factor is a secreted angiogenic mitogen.";

RL Science 246:1306-1309 (1989).

RN [2]
 RC SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND BETA).

RP MEDLINE=90121225; PubMed=2610687;

RA Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J.,

RA Lau K., Crisp T., Fiddes J.C., Abraham J.A.;

RT "Vascular endothelial growth factor: a new member of the platelet-derived growth factor gene family.";

RL Biochem. Biophys. Res. Commun. 165:1198-1206 (1989).

RN [3]
 RC SEQUENCE OF 27-31.

RX MEDLINE=89286596; PubMed=2735925;

RA Ferrara N., Henzel W.J.;

RT "Placental follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells.";

RL Biochem. Biophys. Res. Commun. 161:851-858 (1989).

CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR/Flt-1 and VEGFR/Kdr receptors and to heparan sulfate and heparin (By similarity).

CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PLGF (By similarity).

CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).

CC -1- ALTERNATIVE PRODUCTS:

CC Event-Alternative splicing; Named isoforms=2;

CC Name=Alpha;

CC IsoId=P15691-1; Sequence=Displayed;

CC Name=Beta;
 CC IsoId=P15691-2; Sequence=VSP_004613, VSP_004614;

CC	-1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC	-----
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CC	or send an email to license@isb-sib.ch).
CC	-----
DR	EMBL; M32976; AAA30502.1; -
DR	EMBL; M31836; AAA30804.1; -
DR	EMBL; M33750; AAA30805.1; -
DR	PIR; B40080; B40080.
DR	HSSP; P15692; 1VGH.
DR	InterPro; IPR000072; PD_growth_factor.
DR	Pfam; PF00341; PDGF_1.
DR	ProDom; PD001629; PD_growth_factor; 1.
DR	SMART; SM00141; PDGF_1.
DR	PROSITE; PS00249; PDGF_1; 1.
DR	PROSITE; PS0278; PDGF_2; 1.
KW	Mitogen; Angiogenesis; Growth factor; Glycoprotein; signal;
KW	Heparin-binding; Alternative splicing; Multigene family.
FT	SIGNAL
FT	1 26
FT	CHAIN 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT	DISULFID 51 93 BY SIMILARITY.
FT	DISULFID 82 127 BY SIMILARITY.
FT	DISULFID 86 129 BY SIMILARITY.
FT	DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT	DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT	CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT	VASAPLIC 139 183 Missing (in isoform Beta).
FT	/FTID=VSP_004613.
FT	R -> K (in isoform Beta).
FT	/FTID=VSP_004614.
SO	SEQUENCE 190 AA; 22310 MW; EDBF903E46E24789 CRC64;
Query Match	84.5%; Score 60; DB 1; Length 190;
Best Local Similarity	84.6%; Pred. No. 0.001;
Matches 11; Conservative	0; Mismatches 2; Indels 0; Gaps 0;
Oy	1 CNDEGLSEVPTEE 13
Db	86 CNDESLCVPTEE 98
RESULT 8	
VEGA_HORSE	
ID_VEGA_HORSE	STANDARD; PRT; 190 AA.
AC	O9GKRO;
DT	28-FEB-2003 (Rel. 41, Created)
DT	28-FEB-2003 (Rel. 41, Last sequence update)
DT	28-FEB-2003 (Rel. 41, Last annotation update)
DE	Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE	permeability factor) (VPF).
GN	VEGF OR VEGFA.
OS	Equus caballus (Horse).
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Mammalia; Euteria; Perissodactyla; Equidae; Equus.
OX	NCBI_TaxID=9796;
RN	[1]
RP	SEQUENCE FROM N.A.
RA	Mitura N., Mitsumi K., Kawahara K., Nakashima M., Fukumitsu S.,
RA	Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;
RT	"Cloning of cDNA and high-level expression of equine vascular
RT	endothelial growth factor (VEGF)."
RL	Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
CC	-1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC	cell growth. Induces endothelial proliferation and vascular
CC	permeability (By similarity).
CC	-1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC	with PLGF (By similarity).
CC	-1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or

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CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC
CC -I- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OR GROWTH FACTORS.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; AB051350; BAB20890.1; -.
DR HSSP; P15692; IYGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR Prodom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Multigene family.
FT CHAIN 1 26 POTENTIAL.
FT DISULFID 51 93 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CARBOHD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 190 AA; 22312 MW; 87BE9B161439E5F87 CRC64;

Query Match 84.5%; Score 60; DB 1; Length 190;
Best Local Similarity 84.6%; Pred. No. 0.001;
Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Cy 1 CNDGLESVPTEE 13
Db 86 CNDGELCVCPTAE 98

RESULT 9
VEGA_MOUSE STANDARD; PRT; 214 AA.
AC Q00731;
DT 01-APR-1993 (Rel. 25, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxId=10090;

[1]
RN SEQUENCE FROM N.A. (ISOFORMS VEGF-1; VEGF-2 AND VEGF-3).
RX MEDLINE=92274860; PubMed=1592003;
RA Breier G., Albrecht U., Steier S., Risau W.,
RT "Expression of vascular endothelial growth factor during embryonic
RT angiogenesis and endothelial cell differentiation."
RL Development 114:521-532 (1992).

[2]
RN SEQUENCE FROM N.A. (ISOFORM VEGF-1).
RX MEDLINE=92355593; PubMed=1644816;
RA Claffey K.P., Wilkison W.O., Spiegelman B.M.;
RT "Vascular endothelial growth factor. Regulation by cell
RT differentiation and activated second messenger pathways."
RL J. Biol. Chem. 267:16317-16322 (1992).

[3]
RN SEQUENCE OF 1-3 FROM N.A.
RX MEDLINE=96216498; PubMed=8632007;
RA Shima D.T., Kuroki M., Deutsch U., Ng Y., Adams A.P., D'Amore P.A.;

```

"The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional regulatory sequences."

J. Biol. Chem. 271:3877-3883 (1996).

-1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (by similarity).

-1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (by similarity).

-1- SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3 remains cell-surface associated unless released by heparin.

-1- ALTERNATIVE PRODUCTS:

Event=Alternative splicing; Named isoforms=3;

Name=VEGF-3; Synonyms=VEGF188;

Isoid=Q00731-1; Sequence=Displayed;

Name=VEGF-1; Synonyms=VEGF164;

Isoid=Q00731-2; Sequence=VSP_004626, VSP_004627;

Name=VEGF-2; Synonyms=VEGF120;

Isoid=Q00731-3; Sequence=VSP_004628;

-1- TISSUE SPECIFICITY: In developing embryos, expressed mainly in the choroid plexus, paraventricular neuroepithelium, placenta and kidney glomeruli. Also found in bronchial epithelium, adrenal gland and in semiferous tubules of testis. High expression of VEGF continues in kidney glomeruli and choroid plexus in adults.

-1- DOMAIN: VEGF-3 contains a basic insert which acts as a cell retention signal.

-1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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EMBL, S37052; AAB22252.1; -

EMBL, S38083; AAB22253.1; -

EMBL, S38100; AAB22254.1; -

EMBL, M95200; AAA0547.1; -

EMBL, U41383; -; NOT_ANNOTATED_CDS.

PIR, A44881; A44881.

PIR, B44881; B44881.

HSSP, P15692; 2VPF.

MGI:103178; Vegfa.

InterPro: IPR000072; PD_growth_factor.

Pfam: PF00341; PDGF_1.

ProDom: PDD01629; PD_growth_factor; 1.

SMART, SM00141; PDGF_1.

PROSITE, PS00249; PDGF_1; 1.

PROSITE, PS02378; PDGF_2; 1.

KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Alternative splicing; Multigene family.

KW Heparin-binding; Alternative splicing; Multigene family.

CHAIN 27 214

DISULFID 51 93

DISULFID 82 127

DISULFID 86 129

DISULFID 76 76

DISULFID 85 85

CARBOHYD 100 100

VARSPLIC 140 140

VARSPLIC 141 164

VARSPLIC 141 164

VARSPLIC 141 208

CONFLICT 117 118

SEQUENCE 214 AA; 25283 MW; B5540B51EABBE17 CRC64;

Query Match 77.5%; Score 55; DB 1; Length 214;

Best Local Similarity 76.9%; Pred. No. 0.0098;

Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 CNDEGLSVPTSE 13

Db 86 CNDEALCEVPTSE 98

RESULT 10

VEGA RAT STANDARD; PRT; 214 AA.

AC P16612; Q9YKX7; Q9QXG6; Q9QXG7;

DT 01-AUG-1990 (Rel. 15, Created)

DT 28-FEB-2003 (Rel. 41, Last sequence update)

DT 28-FEB-2003 (Rel. 41, Last annotation update)

DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).

DE VEGF OR VEGFA.

GN Rattus norvegicus (Rat).

OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.

OX NCBI_TaxId=10116;

RP MEDLINE=90207249; PubMed=2220579;

RA Conn G., Bayne M.L., Soderman D.D., Kwok P.W., Sullivan K.A.,

RA Pallat T.M., Hope D.A., Thomas K.A.;

RT "Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor";

RT Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633 (1990).

RN [2]

RP SEQUENCE FROM N.A. (ISOFORMS VEGF-A188, VEGF-A164, VEGF-A144 AND VEGF-A120).

RA Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;

RT "Developmental expression of vascular endothelial growth factor-A (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat mesenter muscle";

RT Submitted (Dec-1999) to the EMBL/GenBank/DBJ databases.

RL [3]

RN SEQUENCE OF 27-40.

RP TISSUE=Glial tumor;

RX MEDLINE=95221439; PubMed=7706320;

RA Disalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,

RA Soderman D.D., Pallat T.M., Sullivan K.A., Thomas K.A.;

RT "Purification and characterization of a naturally occurring vascular endothelial growth factor-placenta growth factor heterodimer";

RT J. Biol. Chem. 270:7717-7723 (1995).

CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (by similarity).

CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (by similarity).

CC -1- SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted. VEGF-A164 is more basic, has heparin-binding properties and, although a significant proportion remains cell-associated, most is freely secreted. VEGF-A188 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin (by similarity).

CC -1- ALTERNATIVE PRODUCTS:

CC Event=Alternative splicing; Named isoforms=4;

CC Comment=Additional isoforms seem to exist;

CC Name=VEGF-A188;

CC Isoid=P16612-1; Sequence=Displayed;

CC Name=VEGF-A164;

CC Isoid=P16612-2; Sequence=VSP_004629, VSP_004630;

CC Name=VEGF-A144;

CC Isoid=P16612-3; Sequence=VSP_004632;


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CC CC Name=VEGF-A120;
CC CC IsoId=PI6632-4; Sequence=VSP 004631;
CC CC -1- TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in
CC CC particularly in supraproctic and paraventricular nuclei and the
CC CC choroid plexus. Also found abundantly in the corpus luteum of the
CC CC ovary and in kidney glomeruli.
CC CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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CC CC or send an email to license@isb-sib.ch).
CC CC -----
CC CC EMBL; M32167; AAA4121.1; -.
CC CC EMBL; AF215725; AAF19211.1; -.
CC CC EMBL; AF215726; AAF19212.1; -.
CC CC EMBL; AF232779; AAF25958.1; -.
CC CC HSSP; P15692; 1VGP.
CC CC InterPro; IPR000072; PD_growth_factor.
CC CC Pfam; PF00341; PDGF; 1.
CC CC ProDom; PD001629; PD_growth_factor; 1.
CC CC SMART; SM00141; PDGF; 1.
CC CC PROSITE; PS00249; PDGF_1; 1.
CC CC PROSITE; PS0278; PDGF_2; 1.
CC CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; signal;
CC CC Heparin-binding; Alternative splicing; Multigene family.
CC CC SIGNAL 1 26
CC CC CHAIN 27 214
CC CC FT DISULFID 51 93 BY SIMILARITY.
CC CC FT DISULFID 82 127 BY SIMILARITY.
CC CC FT DISULFID 86 129 BY SIMILARITY.
CC CC FT DISULFID 76 129 INTERCHAIN (BY SIMILARITY).
CC CC FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
CC CC FT CARBOHYD 100 100 N-LINKED (GLCNAC. . .).
CC CC FT VASAPLIC 140 140 K -> N (in isoform VEGF-A164).
CC CC FT VASAPLIC 141 164 /FTID=VSP 004629.
CC CC FT VASAPLIC 141 164 Missing (in isoform VEGF-A164).
CC CC FT VASAPLIC 141 208 /FTID=VSP 004630.
CC CC FT VASAPLIC 141 208 Missing (in isoform VEGF-A120).
CC CC FT VASAPLIC 165 208 /FTID=VSP 004631.
CC CC FT VASAPLIC 165 208 Missing (in isoform VEGF-A144).
CC CC FT CONFLICT 101 101 /FTID=VSP 004632.
CC CC FT SEQUENCE 214 AA; 25239 MW; 60FB876F5304946 CRC64;
CC CC Query Match 77.5%; Score 55; DB 1; Length 214;
CC CC Best Local Similarity 76.9%; Pred. No. 0.0098;
CC CC Matches 10; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

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RP RP SEQUENCE FROM N.A.
RC TISSUE=decidua, and Embryo;
RC MEDLINE=99311285; PubMed=10382276;
RA Yi X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
RT "Expression of vascular endothelial growth factor (VEGF) and its
RT receptors during embryonic implantation in the golden hamster
RL (Mesocricetus auratus).";
RL Cell Tissue Res. 296:339-349 (1999).
CC CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC CC endothelial cell growth. It induces endothelial cell
CC CC proliferation, promotes cell migration, inhibits apoptosis, and
CC CC induces permeabilization of blood vessels. It binds to the
CC CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC CC heparin (By similarity).
CC CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC CC with PlGF (By similarity).
CC CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC CC to the extracellular matrix unless released by heparin (By
CC CC similarity).
CC CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC CC -----
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CC CC or send an email to license@isb-sib.ch).
CC CC -----
CC CC EMBL; AF063013; AAK0049.1; -.
CC CC HSSP; P15692; 1VGH.
CC CC InterPro; IPR000072; PD_growth_factor.
CC CC Pfam; PF00341; PDGF; 1.
CC CC ProDom; PD001629; PD_growth_factor; 1.
CC CC SMART; SM00141; PDGF; 1.
CC CC PROSITE; PS00249; PDGF_1; 1.
CC CC PROSITE; PS0278; PDGF_2; 1.
CC CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; signal;
CC CC Heparin-binding; Multigene family.
CC CC SIGNAL 1 26
CC CC CHAIN 27 190
CC CC FT DISULFID 51 93 BY SIMILARITY.
CC CC FT DISULFID 82 127 BY SIMILARITY.
CC CC FT DISULFID 86 129 BY SIMILARITY.
CC CC FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
CC CC FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
CC CC FT CARBOHYD 100 100 N-LINKED (GLCNAC. . .) (POTENTIAL).
CC CC FT SEQUENCE 190 AA; 22276 MW; F00CSA8EA79A465F CRC64;
CC CC Query Match 70.4%; Score 50; DB 1; Length 190;
CC CC Best Local Similarity 69.2%; Pred. No. 0.071;
CC CC Matches 9; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

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RESULT 11
VEGA_MESAU STANDARD; PRT; 190 AA.
ID VEGA_MESAU
AC Q99PS1;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC Mesocricetus.
OX NCBI_TaxID=10036;
RN [1]

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RESULT 12
VEGA_CHICK STANDARD; PRT; 216 AA.
ID VEGA_CHICK
AC P52582; G91420;
DT 01-OCT-1996 (Rel. 34, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Gallus gallus (Chicken), and
OS Coturnix coturnix japonica (Japanese quail).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.

```


NCBI_TaxID=9031, 93934;
 (1)
 SEQUENCE FROM N.A.
 SPECIES=Chicken; TISSUE=Heart;
 Takahashi T.;
 "Chick embryonic ventricular myocytes VEGF."
 Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
 (2)
 SEQUENCE FROM N.A. (ISOFORMS VEGF-190, VEGF-166 AND VEGF-146).
 SPECIES=C.japonica; TISSUE=Embryo;
 MEDLINE=96005007; PubMed=7556923;
 Flame I., von Reutern M., Drexler H.C., Syed-Ali S., Rissau W.;
 "Overexpression of vascular endothelial growth factor in the avian
 embryo induces hypervascularization and increased vascular
 permeability without alterations of embryonic pattern formation."
 Dev. Biol. 171:399-414(1995).
 (3)
 SEQUENCE OF 60-187 FROM N.A. (ISOFORMS VEGF-190 AND VEGF-166).
 SPECIES=C.japonica;
 MEDLINE=95301109; PubMed=7781909;
 Flame I., Breiter G., Rissau W.;
 "Vascular endothelial growth factor (VEGF) and VEGF receptor 2
 (Flk-1) are expressed during vasculogenesis and vascular
 differentiation in the quail embryo."
 Dev. Biol. 169:639-712(1995).
 -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 endothelial cell growth. It induces endothelial cell
 proliferation, promotes cell migration, inhibits apoptosis, and
 induces permeabilization of blood vessels. It binds to the
 VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 heparin (by similarity).
 -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 with PlGF (by similarity).
 -1- ALTERNATIVE PRODUCTS:
 Event=Alternative splicing; Named isoforms=3;
 Comment=Additional isoforms seem to exist;
 Name=VEGF-190;
 IsoId=PS2582-1; Sequence=Displayed;
 Name=VEGF-166;
 IsoId=PS2582-2; Sequence=VSP_004633, VSP_004634;
 Note=Has been shown to exist only in quail so far;
 Name=VEGF-146;
 IsoId=PS2582-3; Sequence=VSP_004635, VSP_004636;
 Note=Has been shown to exist only in quail so far;
 -1- TISSUE SPECIFICITY: Abundantly and equally expressed in heart and
 liver. In kidney glomeruli, brain and yolk sac, VEGF-166 is 5- to
 10-times more abundant than VEGF-190.
 -1- DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1 and is
 upregulated during gastrulation. Expression of VEGF-190 is detectable
 only from day 2.
 -1- DOMAIN: VEGF-190 contains a basic insert which acts as a cell
 retention signal.
 -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
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 or send an email to license@isb-sib.ch).

 EMBL, AB011078; BA24925.1; -.
 EMBL, S79680; AAB5371.1; -.
 HSSP; P15692; 1VGH.
 InterPro; IPR000072; PD_growth_factor.
 Pfam; PF00341; PDGF_1.
 ProDom; PD001629; PD_growth_factor; 1.
 SMART; SM00141; PDGF_1.
 PROSITE; PS00249; PDGF_1; 1.
 PROSITE; PS50248; PDGF_2; 1.
 DR MitoGen, Angiogenesis; Growth factor; Glycoprotein; Signal;
 Heparin-binding; Alternative splicing; Multigene family.

FT SIGNAL 1 26 BY SIMILARITY.
 FT CHAIN 27 216 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
 FT DISULFID 52 94 BY SIMILARITY.
 FT DISULFID 83 128 BY SIMILARITY.
 FT DISULFID 87 130 BY SIMILARITY.
 FT DISULFID 77 77 INTERCHAIN (BY SIMILARITY).
 FT DISULFID 86 86 INTERCHAIN (BY SIMILARITY).
 FT CARBOHYD 101 101 N-LINKED (GLCNAC...) (POTENTIAL).
 FT VARSPLC 142 142 K->N (in isoform VEGF-166).
 FT VARSPLC 143 166 Missing (in isoform VEGF-166).
 FT VARSPLC 166 166 /FTId=VSP_004634.
 FT VARSPLC 167 166 /FTId=VSP_004635.
 FT VARSPLC 167 210 Missing (in isoform VEGF-146).
 FT VARSPLC 167 210 /FTId=VSP_004636.
 SQ SEQUENCE 216 AA; 25203 MW; 82B69C2F8FCDA7 CRC64;
 Query Match 66.2%; Score 47; DB 1; Length 216;
 Best Local Similarity 66.7%; Pred. No. 0.29;
 Matches 8; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
 Qy 1 CNDSGLSEVPTE 12
 Db 87 CGDEGLCECPVD 98
 ID FLRT1 HUMAN STANDARD; PRT; 646 AA.
 AC Q9NZU1;
 DT 28-FEB-2003 (Rel. 41, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Leucine-rich repeat transmembrane protein FLRT1 precursor
 DE (Fibronectin-like domain-containing leucine-rich transmembrane protein
 1).
 OS Homo sapiens (Human).
 GN FLRT1.
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 NCBI_TaxID=9606;
 RP SEQUENCE FROM N.A.; TISSUE SPECIFICITY, AND GLYCOSYLATION.
 RX MEDLINE=2012755; PubMed=1064439; Kunkel L.M.;
 RA Lacy S.E., Bonnemant C.G., Buzney E.A., Kunkel L.M.;
 RT "Identification of FLRT1, FLRT2, and FLRT3: a novel family of
 transmembrane leucine-rich repeat proteins."
 RL Genomics 62:417-426(1999).
 CC -1- FUNCTION: May have a function in cell adhesion and/or receptor
 signaling.
 CC -1- SUBCELLULAR LOCATION: Type I membrane protein (Probable).
 CC -1- TISSUE SPECIFICITY: Expressed in kidney and brain.
 CC -1- PTM: N-glycosylated.
 CC -1- SIMILARITY: Contains 1 fibronectin type III domain.
 CC -1- SIMILARITY: Contains 10 leucine-rich (LRR) repeats.
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 or send an email to license@isb-sib.ch).

 EMBL, AF169675; AAF28459.1; ALT_INIT.
 CC Genew; HGNC:3760; FLRT1.
 DR MIM: 604806; -.
 DR GO; GO:0005887; C:integral to plasma membrane; NAS.
 DR GO; GO:003022; F:adhesive extracellular matrix constituent a...; NAS.
 DR GO; GO:0005057; F:receptor signaling protein activity; NAS.
 DR InterPro; IPR003961; FN III.
 DR InterPro; IPR001611; LRR.

```

DR InterPro; IPR000483; LRR_Cterm.
DR InterPro; IPR000372; LRR_Nterm.
DR InterPro; IPR0003591; LRR_Typ.
DR Pfam; PF00041; fn3; 1.
DR Pfam; PF00560; LRR; 8.
DR Pfam; PF01463; LRRCT; 1.
DR Pfam; PF01462; LRRNT; 1.
DR SMART; SM00060; FN3; 1.
DR SMART; SM00369; LRR_Typ; 1.
DR SMART; SM00082; LRRCT; 1.
DR SMART; SM00013; LRRNT; 1.
DR Cell adhesion; Repeat; Signal; Transmembrane; Leucine-rich repeat;
KW Glycoprotein.
FT CHAIN 1 20
FT SIGNAL 1 20
FT DOMAIN 21 524
FT TRANSMEM 525 545
FT DOMAIN 546 646
FT REPEAT 52 77
FT REPEAT 78 98
FT REPEAT 99 121
FT REPEAT 123 147
FT REPEAT 148 169
FT REPEAT 170 192
FT REPEAT 194 218
FT REPEAT 219 241
FT REPEAT 242 264
FT REPEAT 265 288
FT DOMAIN 407 485
FT CARBOHYD 221 221
FT CARBOHYD 277 277
SQ SEQUENCE 646 AA; 71359 MW; FFBFSDCC3CA13C92 CRC64;

Query Match 64.8%; Score 46; DB 1; Length 646;
Best Local Similarity 58.3%; Pred. No. 1.5;
Matches 7; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

OY 1 CNDGLESVPT 12
DB 39 CNDGRLTSPAD 50

RESULT 14
VEGB_BOVIN STANDARD; PRT; 207 AA.
ID Q9X549; Q9GLX2; Q9S48;
AC 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DE 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor B precursor (VEGF-B) (VEGF related
DE factor) (VRF).
GN VEGFB OR VRF.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Heart;
RA Liu X., Yonekura H., Yamagishi S., Yamamoto Y., Yamamoto H.;
RT "Structure and expression of bovine VEGF family.";
RL Submitted (MAY-1997) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE OF 38-104 FROM N.A.
RC TISSUE=Heart;
RA Mandriota S.J., Pepper M.S.;
RL Submitted (OCT-1998) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor for endothelial cells. VEGF-B167 binds
CC heparin and neuropilin-1 whereas the binding to neuropilin-1 of
CC VEGF-B186 is regulated by proteolysis (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Can also form heterodimer

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CC with vegf (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event=Alternative splicing; Named isoforms=2;
CC Comment=Additional isoforms seem to exist;
CC Name=VEGF-B186;
CC IsoId=Q9X549-1; Sequence=Displayed;
CC Name=VEGF-B167;
CC IsoId=Q9X549-2; Sequence=VSP_004637, VSP_004638;
CC -1- PTM: VEGF-B186 is O-glycosylated (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC between the Swiss Institute of Bioinformatics and the EMBL outstation -
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL; AB004274; BAA77686.1; -
CC EMBL; AB004273; BAA77685.1; -
CC EMBL; AF009134; AAG29746.1; -
CC HSSP; P15692; 1VFP.
CC InterPro; IPR002400; GF_CysKnot.
CC InterPro; IPR000072; PD_growth_factor.
CC Pfam; PF00341; PDGF_1.
CC PRINTS; PR00438; GF_CYSKNOT.
CC PRODOM; PD001629; PD_growth_factor; 1.
CC SMART; SM00141; PDGF_1.
CC PROSITE; PS00249; PDGF_1; 1.
CC PROSITE; PS0278; PDGF_2; 1.
CC Mitogen; Growth factor; Glycoprotein; Signal; Heparin-binding;
KW Alternative splicing; Multigene family.
FT SIGNAL 1 21
FT CHAIN 22 207
FT DISULFID 47 89
FT DISULFID 78 122
FT DISULFID 82 124
FT DISULFID 72 72
FT DISULFID 81 81
FT VARSPLIC 137 188
FT FT
FT FT
FT VARSPLIC 189 207
FT FT
FT FT
SQ SEQUENCE 207 AA; 21655 MW; 646C82DA1BE17782 CRC64;

Query Match 63.4%; Score 45; DB 1; Length 207;
Best Local Similarity 72.7%; Pred. No. 0.64;
Matches 8; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 CNDGLESVPT 11
DB 82 CPDGLBCVPT 92

RESULT 15
VEGB_HUMAN STANDARD; PRT; 207 AA.
ID P49765; Q16528;
AC 01-OCT-1996 (Rel. 34, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor B precursor (VEGF-B) (VEGF related
DE factor) (VRF).
GN VEGFB OR VRF.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

```

OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 OX NCBI_TaxID=9606;
 [1]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-B186 AND VEGF-B167).
 RC TISSUE=Petal brain; PubMed=8919691;
 RX MEDLINE=97077124; PubMed=8919691;
 RA Grimmer S., Lagercrantz J., Drinkwater C., Silins G., Townson S.,
 RA Pollock P., Gotley D., Carson E., Rakar S., Nordenkjold M., Ward L.,
 RA Hayward N.K., Weber G.;
 RT "Cloning and characterization of a novel human gene related to
 RT vascular endothelial growth factor.";
 RL Genome Res. 6:124-131 (1996).
 [2]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-B186).
 RC TISSUE=Fibroblastoma;
 RX MEDLINE=96325041; PubMed=8702615;
 RA Olofsson B., Pajusola K., von Euler G., Chilov D., Alltalo K.,
 RA Eriksson U.;
 RT "Genomic organization of the mouse and human genes for vascular
 RT endothelial growth factor B (VEGF-B) and characterization of a second
 RT splice isoform.";
 RL J. Biol. Chem. 271:19310-19317 (1996).
 [3]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-B167).
 RX MEDLINE=96197355; PubMed=8637916;
 RA Olofsson B., Pajusola K., Kaipainen A., von Euler G., Jonkov V.,
 RA Sakela O., Orpana A., Pettersson R.F., Alltalo K., Eriksson U.,
 RT "Vascular endothelial growth factor B, a novel growth factor for
 RT endothelial cells.";
 RL Proc. Natl. Acad. Sci. U.S.A. 93:2576-2581 (1996).
 [4]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-B186).
 RC TISSUE=Nonell;
 RX MEDLINE=22388257; PubMed=12477932;
 RA Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
 RA Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
 RA Altschul S.F., Zeeberg B., Buetow K.H., Scheffer C.F., Bhat N.K.,
 RA Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
 RA Diatchenko L., Marusik K., Farmer A.A., Rubin G.M., Hong L.,
 RA Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
 RA Brownstein M.U., Ushed T.B., Toshlyuk S., Carninci P., Prange C.,
 RA Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mallah S.J.,
 RA Bosak S.A., McSwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
 RA Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
 RA Villalon D.K., Muny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
 RA Fahy J., Helton E., Kettelman M., Madan A.C., Rodriguez S., Sanchez A.,
 RA Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
 RA Blakesley R.W., Touchman J.W., Green B.D., Dickson M.C.,
 RA Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M.,
 RA Butterfield Y.S.N., Krzywicki M.I., Skalska U., Smalls D.E.,
 RA Scherch A., Schein J.E., Jones S.J.M., Marra M.A.;
 RT "Generation and initial analysis of more than 15,000 full-length
 RT human and mouse cDNA sequences.";
 RT Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903 (2002).
 CC -1- FUNCTION: Growth factor for endothelial cells. VEGF-B167 binds
 CC heparin and neuropilin-1 whereas the binding to neuropilin-1 of
 CC VEGF-B186 is regulated by proteolysis.
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Can also form heterodimer
 CC with vegf.
 CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
 CC to the extracellular matrix unless released by heparin.
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing; Named isoforms=2;
 CC Comment-Additional isoforms seem to exist;
 CC Name=VEGF-B186;
 CC IsoId=P49765-1; Sequence=Displayed;
 CC Name=VEGF-B167;
 CC IsoId=P49765-2; Sequence=VSP_004639, VSP_004640;
 CC -1- TISSUE SPECIFICITY: Expressed in all tissues except liver. Highest
 CC levels found in heart, skeletal muscle and pancreas.
 CC -1- PTM: VEGF-B186 is O-glycosylated (by similarity).
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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 CC -----
 CC EMBL, U43368; AAA91463.1; -;
 CC EMBL, U43369; AAA91463.1; -;
 CC EMBL, U52819; AAC50721.1; -;
 CC EMBL, U48801; AAB06274.1; -;
 CC EMBL, BC008818; AAB08818.1; -;
 CC HSSP; P15692; 1VPP.
 CC Gene; HGNC:12681; VEGFB.
 CC MIM; 601398; -;
 CC DR GO; GO:0005576; C:extracellular; NAS.
 CC DR GO; GO:0005172; F:vascular endothelial growth factor receptor.; NAS.
 CC DR GO; GO:0008284; P:positive regulation of cell proliferation; TAS.
 CC DR GO; GO:0001558; P:regulation of cell growth; NAS.
 CC DR GO; GO:0007165; P:signal transduction; TAS.
 CC DR InterPro; IPR02400; GF_cyknut.
 CC DR InterPro; IPR000772; PD_growth_factor.
 CC DR Pfam; PF00341; PDGF_1.
 CC DR PRINTS; PR00438; GFCYSKNOT.
 CC DR ProDom; PD001629; PD_growth_factor; 1.
 CC DR SMART; SM00149; PDGF_1.
 CC DR PROSITE; PS00249; PDGF_1; 1.
 CC DR PROSITE; PS50278; PDGF_2; 1.
 CC KW MitoGen; Growth factor; Glycoprotein; Signal; Heparin-binding;
 CC KW Alternative splicing; Multigene family.
 CC FT SIGNAL 1 21 POTENTIAL.
 CC FT CHAIN 22 207 VASCULAR ENDOTHELIAL GROWTH FACTOR B.
 CC FT DISULFD 47 89 BY SIMILARITY.
 CC FT DISULFD 78 122 BY SIMILARITY.
 CC FT DISULFD 82 124 BY SIMILARITY.
 CC FT DISULFD 72 72 INTERCHAIN (BY SIMILARITY).
 CC FT DISULFD 81 81 INTERCHAIN (BY SIMILARITY).
 CC FT VARSPLIC 137 188 RAATPHRQPRSVQCMSPAPSPADTTPAPGSAH
 CC AAPTSTALPT -> SPRPLCRCTOHORPPRCRCR
 CC RRSFRCQGLELNPDCRCRKLRR (in isoform
 CC VEGF-B167).
 CC FT FTID=VSP_004639.
 CC FT Missing (in isoform VEGF-B167).
 CC FT FTID=VSP_004640.
 CC FT VARSPLIC 189 207 Missing (in isoform VEGF-B167).
 CC SQ SEQUENCE 207 AA; 21602 MW; EDE4B1C0DDAD6BC CRC64;
 CC Query Match 63.4%; Score 45; DB 1; Length 207;
 CC Best Local Similarity 72.7%; Pred. No. 0.64;
 CC Matches 8; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Search completed: January 30, 2004, 11:41:06
 Job time : 3 secs

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:33:38 ; Search time 13.4667 Seconds
(without alignments)
249.110 Million cell updates/sec

Title: US-09-266-543-8
Perfect score: 71
Sequence: 1 CNDEGLSVPTEE 13

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues
Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

SPTREMBL_23:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_protect:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriap:*
17: sp_archaeap:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	length	DB ID	Description
1	66	93.0	124	6 Q9GK00	Q9GK00 callithrix
2	66	93.0	124	6 Q8SP29	Q8SP29 sus scrofa
3	66	93.0	126	6 Q9BDP7	Q9BDP7 macaca mula
4	66	93.0	127	6 Q8WMC4	Q8WMC4 sus scrofa
5	66	93.0	184	6 Q8HY70	Q8HY70 mustela vis
6	66	93.0	189	6 Q9SL04	Q9SL04 felis silve
7	66	93.0	191	4 Q9GK10	Q9GK10 homo sapien
8	66	93.0	191	4 Q9GL82	Q9GL82 homo sapien
9	66	93.0	191	6 Q9SNE5	Q9SNE5 macaca fasc
10	60	84.5	68	6 Q8WMC4	Q8WMC4 capra hircu
11	60	84.5	75	6 Q97500	Q97500 oryctolagus
12	60	84.5	75	6 Q18843	Q18843 oryctolagus
13	60	84.5	78	6 Q9N1S2	Q9N1S2 capreolus c
14	60	84.5	109	6 Q8WMC4	Q8WMC4 capra hircu
15	60	84.5	118	6 Q9WZB1	Q9WZB1 ovis aries
16	60	84.5	123	6 Q9N1S1	Q9N1S1 capreolus c

17	60	84.5	128	6 Q8SP15	Q8SP15 equus caball
18	60	84.5	131	6 Q8WMC4	Q8WMC4 capreolus c
19	60	84.5	132	12 Q9YMF3	Q9YMF3 orf virus
20	60	84.5	190	6 Q77643	Q77643 ovis aries
21	55	77.5	110	11 Q88911	Q88911 rattus norv
22	55	77.5	141	11 Q70123	Q70123 mus musculu
23	55	77.5	144	13 Q73822	Q73822 brachydanio
24	55	77.5	148	13 Q42571	Q42571 xenopus lae
25	55	77.5	188	13 Q73682	Q73682 brachydanio
26	55	77.5	190	11 Q91ZEL	Q91ZEL rattus norv
27	55	77.5	190	11 Q9QX39	Q9QX39 spalax leuc
28	55	77.5	194	13 Q42572	Q42572 xenopus lae
29	50	70.4	142	11 Q9ERL6	Q9ERL6 mesocricetu
30	46	64.8	670	10 Q65749	Q65749 cicier ariet
31	46	64.8	674	4 Q8WVA2	Q8WVA2 homo sapien
32	45	63.4	188	4 Q8TEV2	Q8TEV2 homo sapien
33	44	62.0	251	17 Q52002	Q52002 homo sapien
34	43	60.6	325	4 Q8NAB7	Q8NAB7 halobacteri
35	43	60.6	3107	12 P87587	P87587 ciltus tris
36	42	59.2	396	4 Q9NUP4	Q9NUP4 homo sapien
37	42	59.2	826	4 Q96PH7	Q96PH7 homo sapien
38	42	59.2	933	5 Q9BUD5	Q9BUD5 strongyloc
39	42	59.2	1624	4 Q9H4C9	Q9H4C9 homo sapien
40	42	59.2	1790	4 Q96PH8	Q96PH8 homo sapien
41	42	59.2	1791	4 Q9BXP8	Q9BXP8 homo sapien
42	41	57.7	263	2 Q85824	Q85824 thermus the
43	41	57.7	264	2 Q9KH06	Q9KH06 thermus the
44	41	57.7	266	2 Q9ICZ1	Q9ICZ1 thermus the
45	41	57.7	460	10 Q9FTW9	Q9FTW9 arabidopsis

ALIGNMENTS

RESULT 1

Q9GK00 Q9GK00 PRELIMINARY; PRT; 124 AA.
AC 01-MAR-2001 (TREMBLrel. 16, Created)
DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)
DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).
GN VEGF.
OS Callithrix jacchus (Common marmoset).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Callithrix.
OX NCBI_TaxID=9483;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Oviduct;
RA Welter H., Gabler C., Einspanier R.;
RT "growth factor expression in marmoset monkey oviducts.";
RL Submitted (MAY-2000) to the EMBL/Genbank/DBJ databases.
DR EMBL; AJ278192; CACI9923.1; -
DR HSSP; P49763; 1FZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON_TER 1
FT NON_TER 124
SQ SEQUENCE 124 AA; 14548 MW; AA6F8CAFCFOA0CC CXC64;
Query Match 93.0%; Score 66; DB 6; Length 124;
Best Local Similarity 92.3%; Pred. No. 0.00018;
Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSVPTEE 13
DB 47 CNDEGLSVPTEE 59

RESULT 2

Q8SPZ9

PRELIMINARY; PRT; 124 AA.

AC Q8SPZ9; 01-JUN-2002 (TREMBlrel. 21, Created)
 DT 01-JUN-2002 (TREMBlrel. 21, Last sequence update)
 DT 01-OCT-2002 (TREMBlrel. 22, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Myocardium;
 RA Yuan H., Li J.;
 RT "The expression of VEGF in porcine collateral-dependent myocardial by
 exercise training.";
 RL Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF461807; AAL65286.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON_TER 124
 SQ SEQUENCE 124 AA; 14552 MW; 281C1A009E67C9C9 CRC64;

Query Match

Best Local Similarity 93.0%; Score 66; DB 6; Length 124;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSVPTSE 13

DB 58 CNDEGLSVPTSE 70

RESULT 3

Q9BDP7

PRELIMINARY; PRT; 126 AA.

AC Q9BDP7; 01-JUN-2001 (TREMBlrel. 17, Created)
 DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 OS Macaca mulatta (Rhesus macaque).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 OC Cercopithecoidea; Macaca.
 NCBI_TaxID=9544;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Hazard T.M., Nayak N.R., Jia Y., Stouffer R.L.;
 RT Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF39737; AAK26379.1; -.
 DR HSSP; P49763; IEFV.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON_TER 126
 SQ SEQUENCE 126 AA; 14599 MW; 1175F2386A83BCF CRC64;

Query Match 93.0%; Score 66; DB 6; Length 126;
 Best Local Similarity 92.3%; Pred. No. 0.00018;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSVPTSE 13
 DB 80 CNDEGLSVPTSE 92

RESULT 4

Q8WMQ4

PRELIMINARY; PRT; 127 AA.

AC Q8WMQ4; 01-MAR-2002 (TREMBlrel. 20, Created)
 DT 01-MAR-2002 (TREMBlrel. 20, Last sequence update)
 DT 01-OCT-2002 (TREMBlrel. 22, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
 NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Myocardium;
 RA Yuan H., Li J.;
 RT "The expression of VEGF in porcine collateral-dependent myocardial by
 exercise training.";
 RL Submitted (JAN-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AY072734; AAL68393.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON_TER 127
 SQ SEQUENCE 127 AA; 14920 MW; 5AB63F01A8BC29ED CRC64;

Query Match

Best Local Similarity 93.0%; Score 66; DB 6; Length 127;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSVPTSE 13

DB 44 CNDEGLSVPTSE 56

RESULT 5

Q8HY70

PRELIMINARY; PRT; 184 AA.

AC Q8HY70; 01-MAR-2003 (TREMBlrel. 23, Created)
 DT 01-MAR-2003 (TREMBlrel. 23, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor A (Fragment).
 OS Muscivora vison (American mink).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustelinae;
 OC Mustela.
 NCBI_TaxID=9667;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Lopes F.L., Demarais J.A., Gevery N.Y., Ledoux S., Murphy B.D.;
 RT "Expression of VEGF isoforms and receptors during implantation in
 Mustela vison.";
 RL Submitted (OCT-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AY158156; AAN76365.1; -.
 FT NON_TER 184
 SQ SEQUENCE 184 AA; 21608 MW; BAD47CCB0C146F22 CRC64;

Query Match 93.0%; Score 66; DB 6; Length 184;
 Best Local Similarity 92.3%; Pred. No. 0.00027;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 CNDEGLSVPTSE 13

DB 86 CNDEGLSVPTSE 98

RESULT 6

Q95LQ4 PRELIMINARY; PRT; 189 AA.
 AC Q95LQ4
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor.
 OS Felis silvestris catus (Cat).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Carnivora; Fissipedia; Felidae; Felle.
 NX NCBI_TaxID=9685;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Koga U., Kobayashi Y., Yazawa M., Masuda K., Ohno K., Tsujimoto H.;
 RT "Nucleotide sequence and expression of the feline vascular endothelial
 growth factor."
 RL Submitted (SEP-2001) to the EMBL/Genbank/DBJ databases.
 DR EMBL; AB071947; BAB68520.1; -
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 189 AA; 22193 MW; C1E4646759AB3FD6 CRC64;

Query Match 93.0%; Score 66; DB 6; Length 189;
 Best Local Similarity 92.3%; Pred. No. 0.00028;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDEGLSVPTPE 13
 Db 86 CNDEGLSVPTPE 98

RESULT 7

Q96KJ0 PRELIMINARY; PRT; 191 AA.
 AC Q96KJ0
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor 165b.
 OS Homo sapiens (Human).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 NX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA TISSUE=Kidney;
 RA Sugiono M., Winkler M., Gyllatt D., Harper S.J., Bates D.O.;
 RT "A new isoform of vascular endothelial growth factor mRNA is down-
 regulated in renal tumors."
 RL (in) Unknown A. (eds.);
 RL Proceedings of the 7th World Congress on Microcirculation, pp.3-3,
 RL Sydney, Australia (2001).
 DR EMBL; AF430806; AAL27435.1; -
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22258 MW; D25243B540AC79BD CRC64;

Query Match 93.0%; Score 66; DB 4; Length 191;
 Best Local Similarity 92.3%; Pred. No. 0.00028;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDEGLSVPTPE 13

Db 87 CNDEGLSVPTPE 99

RESULT 8

Q96L82 PRELIMINARY; PRT; 191 AA.
 AC Q96L82
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
 DE Vascular endothelial growth factor.
 GN VEGF.
 OS Homo sapiens (Human).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 NX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Liu J., Peng X., Yuan J., Qiang B.;
 RT "Cloning of vascular endothelial growth factor (VEGF) cDNA."
 RL Submitted (JUL-2001) to the EMBL/Genbank/DBJ databases.
 DR EMBL; AY047581; AAK95847.1; -
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 93.0%; Score 66; DB 4; Length 191;
 Best Local Similarity 92.3%; Pred. No. 0.00028;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDEGLSVPTPE 13
 Db 87 CNDEGLSVPTPE 99

RESULT 9

Q95NE5 PRELIMINARY; PRT; 191 AA.
 AC Q95NE5
 DT 01-DEC-2001 (TREMBLrel. 19, Created)
 DT 01-DEC-2001 (TREMBLrel. 19, Last sequence update)
 DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
 DE SimVEGF165.
 GN SIMVEGF165.
 OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
 CC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheidae;
 CC Cercopitheidae; Macaca.
 NX NCBI_TaxID=9541;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=96245208; PubMed=8641836;
 RA Shima D.T., Gougos A., Miller J.W., Tolentino M., Robinson G.,
 RA Adams A.P., D'Amore P.A.;
 RT "Cloning and mRNA expression of vascular endothelial growth factor in
 the ischemic retina of Macaca fascicularis."
 RL Invest. Ophthalmol. Vis. Sci. 37:1334-1340(1996).
 DR EMBL; S82167; AAB47118.1; -
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 93.0%; Score 66; DB 6; Length 191;
 Best Local Similarity 92.3%; Pred. No. 0.00028;
 Matches 12; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
 |||||
 Db 87 CNDGSLCVPTEE 99

RESULT 10
 OBMINO PRELIMINARY; PRT; 65 AA.

AC OBMINO;
 DT 01-OCT-2002 (TREMBlrel. 22, Created)
 DT 01-OCT-2002 (TREMBlrel. 22, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor 121 (Fragment).
 OS Capra hircus (Goat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Caprinae; Capra.
 OK NCBI_TaxID=9925;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Corpus luteum;
 RA Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.;
 RT "Changes of Messenger RNAs Encoding Vascular Endothelial Growth Factor
 and its Receptors during the Development and Maintenance of Caprine
 Corpora Lutea."
 RT Submitted (May-2002) to the EMBL/Genbank/DBJ databases.
 DR EMBL: AY114353; AAM76674.1; -.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF_1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF_1.
 DR PROSITE: PS50278; PDGF_2; 1.
 DR NON_TER 1
 FT 1
 SQ SEQUENCE 65 AA; 7562 MW; BA3E384364B05F3 CRC64;

Query Match 84.5%; Score 60; DB 6; Length 65;
 Best Local Similarity 84.6%; Pred. No. 0.0012;
 Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
 |||||
 Db 5 CNDGSLCVPTEE 17

RESULT 11

AC O97500 PRELIMINARY; PRT; 68 AA.
 DT 01-MAY-1999 (TREMBlrel. 10, Created)
 DT 01-MAY-1999 (TREMBlrel. 10, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 OS VEGF.
 OC Oryctolagus cuniculus (Rabbit).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
 OK NCBI_TaxID=9986;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Inoue K., Kawabe Y., Kodama T.;
 RT "Rabbit VEGF cDNA, partial."
 RT Submitted (NOV-1998) to the EMBL/Genbank/DBJ databases.
 DR EMBL: AB020216; BAA36949.1; -.
 DR HSP: P49763; 1FZV.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF_1.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF_1.
 DR PROSITE: PS00249; PDGF_1; 1.
 DR PROSITE: PS50278; PDGF_2; 1.
 DR NON_TER 1
 FT 1
 SQ SEQUENCE 68 AA; 7819 MW; 687638661E98DE0 CRC64;

Query Match 84.5%; Score 60; DB 6; Length 68;
 Best Local Similarity 84.6%; Pred. No. 0.0012;
 Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
 |||||
 Db 41 CNDGSLCVPTEE 53

RESULT 12

ID O18843 PRELIMINARY; PRT; 75 AA.
 AC O18843;
 DT 01-JAN-1998 (TREMBlrel. 05, Created)
 DT 01-JAN-1998 (TREMBlrel. 05, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 OS VEGF.
 OC Oryctolagus cuniculus (Rabbit).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
 OK NCBI_TaxID=9986;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=NEW ZEALAND WHITE; TISSUE=Skeletal muscle;
 RX MEDLINE=98191144; PubMed=9530113;
 RA Skorjanc D., Jauchinski F., Heine G., Pette D.;
 RT "Sequential increases in capillarization and mitochondrial enzymes in
 RT low-frequency-stimulated rabbit muscle."
 RL Am. J. Physiol. 274:C810-C818(1998).
 DR EMBL: AF022179; AAC15469.1; -.
 DR HSP: P49763; 1FZV.
 DR InterPro: IPR002400; GF_cysknot.
 DR InterPro: IPR000072; PD_growth_factor.
 DR Pfam: PF00341; PDGF_1.
 DR PRINTS: PR00438; GFCYSKNOT.
 DR ProDom: PD001629; PD_growth_factor; 1.
 DR SMART: SM00141; PDGF_1.
 DR PROSITE: PS00249; PDGF_1; 1.
 DR PROSITE: PS50278; PDGF_2; 1.
 DR NON_TER 1
 FT 1
 SQ SEQUENCE 75 AA; 8720 MW; DDC82C5B29E69359 CRC64;

Query Match 84.5%; Score 60; DB 6; Length 75;
 Best Local Similarity 84.6%; Pred. No. 0.0014;
 Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 CNDGLESVPTEE 13
 |||||
 Db 29 CNDGSLCVPTEE 41

RESULT 13

ID O9N1S2 PRELIMINARY; PRT; 78 AA.
 AC O9N1S2;
 DT 01-OCT-2000 (TREMBlrel. 15, Created)
 DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
 DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
 DE Vascular endothelial growth factor isoform 121 (Fragment).
 OS VEGF.
 OC Capreolus capreolus (Ree deer).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervidae;
 OC Cervidae; Odocoileinae; Capreolus.
 OK NCBI_TaxID=9858;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testis;
 RX MEDLINE=20532861; PubMed=11078967;
 RA Wagener A., Blottner S., Goritz F., Fickel J.;


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RT "Detection of growth factors in the testis of roe deer (Capreolus
RT Capreolus)."
RL Anim. Reprod. Sci. 64:65-75(2000).
DR EMBL; AF152593; AAF73232.1; -.
DR HSSP; P49763; 1FZV.
DR InterPro; IPR002400; GF_cyknob.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR PRINTS; PR00438; GFCYSKNOT.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON TER 1
FT NON TER 78
SQ SEQUENCE 78 AA; 9131 MW; 7BE20DDFFC17847C CRC64;

Query Match 84.5%; Score 60; DB 6; Length 78;
Best Local Similarity 84.6%; Pred. No. 0.0014;
Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEE 13
DB 25 CNDLSLECVPTTE 37

RESULT 14
Q8MIN1 PRELIMINARY; PRT; 109 AA.
AC Q8MIN1;
DT 01-OCT-2002 (TREMBlrel. 22, Created)
DT 01-OCT-2002 (TREMBlrel. 22, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor 165 (Fragment).
OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Capra.
OX NCBI_TaxID=9925;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Corpus Luteum;
RA Kawate N., Tsuji M., Tamada H., Inaba T., Sawada T.;
RT "Changes of Messenger RNAs Encoding Vascular Endothelial Growth Factor
RT and Its Receptors during the Development and Maintenance of Caprine
RT Corpora Lutea."
RL Submitted (May-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL; AY114352; AAM76673.1; -.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON TER 1
FT NON TER 1
SQ SEQUENCE 109 AA; 12656 MW; 912657251A37E023 CRC64;

Query Match 84.5%; Score 60; DB 6; Length 109;
Best Local Similarity 84.6%; Pred. No. 0.0021;
Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEE 13
DB 5 CNDLSLECVPTTE 17

RESULT 15
Q9MZB1 PRELIMINARY; PRT; 118 AA.
AC Q9MZB1;
DT 01-OCT-2000 (TREMBlrel. 15, Created)
DT 01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)
DE Vascular endothelial growth factor (Fragment).

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GN VEGF.
OS Ovis aries (Sheep).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Ovis.
OX NCBI_TaxID=9940;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Placental artery endothelium;
RA Zheng J., Tsol S.C., Magness R.R.;
RT "Growth factor expression in ovine fetal placental artery endothelial
RT cells."
RL Submitted (MAR-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF250375; AAF75258.1; -.
DR HSSP; P49763; 1FZV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
FT NON TER 1
FT NON TER 1
SQ SEQUENCE 118 AA; 13931 MW; 757DC53AA56378A6 CRC64;

Query Match 84.5%; Score 60; DB 6; Length 118;
Best Local Similarity 84.6%; Pred. No. 0.0022;
Matches 11; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 CNDGLESVPTEE 13
DB 58 CNDLSLECVPTTE 70

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 Job time : 14.4667 secs

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:08 ; Search time 21.9077 Seconds
(without alignments)
115.924 Million cell updates/sec

Title: US-09-266-543-9
Perfect score: 86
Sequence: 1 CEESNITWQIMRIKPH 16

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 1107863 seqs, 158726573 residues
Total number of hits satisfying chosen parameters: 1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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- 10: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1988.DAT.*
- 11: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1989.DAT.*
- 12: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1990.DAT.*
- 13: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1991.DAT.*
- 14: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1992.DAT.*
- 15: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1993.DAT.*
- 16: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1994.DAT.*
- 17: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1995.DAT.*
- 18: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1996.DAT.*
- 19: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1997.DAT.*
- 20: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1998.DAT.*
- 21: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA1999.DAT.*
- 22: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA2000.DAT.*
- 23: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA2001.DAT.*
- 24: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA2002.DAT.*
- 25: /SIDS1/gcgdata/geneseq/geneseq-emb1/AA2003.DAT.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	86	100.0	16	21	AA18550
2	77	89.5	26	21	AA18548
3	77	89.5	36	19	AAW49805
4	77	89.5	101	24	AA632330
5	77	89.5	102	22	AAU08484
6	77	89.5	105	21	AA53387
7	77	89.5	105	22	AAU08407
8	77	89.5	105	22	AAU08411
9	77	89.5	105	22	AAU08471

10	77	89.5	105	22	AAU08472
11	77	89.5	110	21	AA69417
12	77	89.5	110	21	AA693038
13	77	89.5	110	22	AA679276
14	77	89.5	110	22	AA650436
15	77	89.5	110	23	AA676304
16	77	89.5	121	12	AA11385
17	77	89.5	121	14	AA42607
18	77	89.5	121	17	AA09091
19	77	89.5	121	17	AA03677
20	77	89.5	121	17	AA69643
21	77	89.5	121	17	AA69397
22	77	89.5	121	19	AAW40597
23	77	89.5	121	20	AA623943
24	77	89.5	121	20	AAU08278
25	77	89.5	121	21	AA199848
26	77	89.5	121	22	AA650428
27	77	89.5	121	24	AA684619
28	77	89.5	121	24	AA632329
29	77	89.5	126	22	AAU08403
30	77	89.5	126	22	AAU08409
31	77	89.5	126	22	AAU08413
32	77	89.5	127	22	AAU08405
33	77	89.5	127	22	AAU08423
34	77	89.5	127	22	AAU08425
35	77	89.5	127	22	AAU08427
36	77	89.5	127	22	AAU08429
37	77	89.5	141	24	ABG71756
38	77	89.5	145	19	AAW5693
39	77	89.5	145	20	AAU08279
40	77	89.5	145	21	AA69413
41	77	89.5	145	21	AA693034
42	77	89.5	145	22	AA650432
43	77	89.5	145	23	AA676300
44	77	89.5	147	16	AA691075
45	77	89.5	147	17	AA694001

ALIGNMENTS

RESULT 1	
AA18550	standard; peptide; 16 AA.
ID	AA18550
AC	AA18550;
DT	15-JAN-2001 (first entry)
XX	Immunogenic peptide fragment derived from FGF and/or VEGF.
XX	Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer;
XX	vascular endothelial growth factor; hyperproliferative disorder;
XX	haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis;
XX	teliangiectasia; psoriasis; scleroderma; pyogenic granuloma;
XX	myocardial angiogenesis; Crohn's disease; plaque neovascularisation;
XX	arteriovenous malformation; corneal disease; rubecosis;
XX	neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia;
XX	arthritis; diabetic neovascularisation; macular degeneration;
XX	wound healing; peptic ulcer; Helicobacter related disease; fracture;
XX	keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;
XX	placentation; cat scratch fever.
OS	Unidentified.
PN	WO200053219-A2.
PN	14-SEP-2000.
PD	10-MAR-2000; 2000WO-US06320.
PF	11-MAR-1999; 99US-0266543.
PR	
XX	

Polypeptide encode
Amino acid sequenc
Human vascular end
Primary sequence o
Human VEGF110. Ho
Human vascular end
Human vascular end
Human VEGF-121. H
Human VEGF/VPF121
Vascular permeabil
Human vascular per
Vascular permeabil
VEGF/VPF121. Homo
Amino acid sequenc
Human growth facto
Human vascular end
Human VEGF145. Ho
Human vascular end
VEGF121. Homo sap

PA (ENTR-) ENTREMED INC.
 XX Holaday JW, Ruiz A, Madsen J;
 XX WPI; 2000-594263/56.
 DR
 XX An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 PT of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 PS Claim 13; Page 28; 95pp; English.
 XX
 CC AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubrosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentaion and cat scratch fever.
 CC
 SQ Sequence 16 AA;
 Query Match 100.0%; Score 86; DB 21; Length 16;
 Best Local Similarity 100.0%; Pred. No. 2.2e-09;
 Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1 CEESNTWQIMRIKPH 16
 DB 1 CEESNTWQIMRIKPH 16
 RESULT 2
 ID AAB18548 standard; peptide; 26 AA.
 XX
 AC AAB18548;
 XX
 DT 15-JAN-2001 (first entry)
 XX
 DE Immunogenic peptide fragment derived from FGF and/or VEGF.
 XX
 KW Immunogenic peptide; fibroblast growth factor; FGF; VEGF; cancer;
 KW vascular endothelial growth factor; hyperproliferative disorder;
 KW haemangioma; solid tumour; blood borne tumour; leukaemia; metastasis;
 KW telangiectasia; psoriasis; scleroderma; pyogenic granuloma;
 KW myocardial angiogenesis; Crohn's disease; plaque neovascularisation;
 KW arteriovenous malformation; corneal disease; rubrosis;
 KW neovascular glaucoma; diabetic retinopathy; retrolental fibroplasia;
 KW arthritis; diabetic neovascularisation; macular degeneration;
 KW wound healing; peptic ulcer; Helicobacter related disease; fracture;
 KW keloid; vasculogenesis; hematopoiesis; ovulation; menstruation;
 KW placentaion; cat scratch fever.
 KW
 XX Unidentified.
 OS
 XX WO200053219-A2.
 PN
 XX 14-SEP-2000.
 PD
 XX 10-MAR-2000; 2000WO-US06320.
 PF
 XX 11-MAR-1999; 99US-0266543.
 PR
 XX (ENTR-) ENTREMED INC.
 PA
 XX Holaday JW, Ruiz A, Madsen J;
 PI
 XX

DR WPI; 2000-594263/56.
 XX
 XX An immunogenic composition useful for treating cancer or
 PT hyperproliferative disorders comprises an immunogenic peptide fragment
 PT of fibroblast growth factor and/or vascular endothelial growth factor -
 XX
 PS Claim 13; Page 28; 95pp; English.
 XX
 CC AAB18542-51 represent immunogenic peptide fragments of fibroblast
 CC growth factor (FGF) and/or vascular endothelial growth factor (VEGF).
 CC The peptides are used to produce immunogenic compositions. The
 CC immunogenic composition is used for treating cancer or
 CC hyperproliferative disorders, especially haemangioma, solid tumours,
 CC blood borne tumours, leukaemia, metastasis, telangiectasia, psoriasis,
 CC scleroderma, pyogenic granuloma, myocardial angiogenesis, Crohn's
 CC disease, plaque neovascularisation, arteriovenous malformations,
 CC corneal diseases, rubrosis, neovascular glaucoma, diabetic retinopathy,
 CC retrolental fibroplasia, arthritis, diabetic neovascularisation, macular
 CC degeneration, wound healing, peptic ulcer, Helicobacter related
 CC diseases, fractures, keloids, vasculogenesis, hematopoiesis, ovulation,
 CC menstruation, placentaion and cat scratch fever.
 CC
 SQ Sequence 26 AA;
 Query Match 89.5%; Score 77; DB 21; Length 26;
 Best Local Similarity 100.0%; Pred. No. 2e-07;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 2 EESNTWQIMRIKPH 16
 DB 12 EESNTWQIMRIKPH 26
 RESULT 3
 ID AAW49805 standard; peptide; 36 AA.
 XX
 AC AAW49805;
 XX
 DT 24-SEP-1998 (first entry)
 XX
 DE Amino acid sequence of ligand oligopeptides.
 XX
 KW Ligand oligopeptide; 4-membered complex; gene transfer system;
 KW tumour gene therapy; polycationic polypeptide; cancer;
 KW endosome-release oligopeptide; malignant tumour cell;
 KW tumour vascular endothelialocytes.
 KW
 XX Synthetic.
 OS
 XX WO9818951-A1.
 PN
 XX 07-MAY-1998.
 PD
 XX 27-OCT-1997; 97WO-CN00106.
 PF
 XX 31-OCT-1996; 96CN-0116557.
 PR
 XX (SHAN-) SHANGHAI CANCER INST.
 PA
 XX Gu J, Tian P;
 PI
 XX WPI; 1998-272239/24.
 DR
 XX Novel receptor-mediated gene transfer systems for targeting tumour
 PT gene therapy - by binding to growth factor receptor with their
 PT terminal exogenous DNA component, used to treat e.g. malignant
 PT tumour cells and tumour vascular endothelialocytes, and in gene
 PT therapy
 XX
 PS Claim 5; Page 32; 67pp; Japanese.
 PS
 XX This is the amino acid sequence of ligand oligopeptide used in the

CC method of the invention to create a 4-membered complex gene transfer
 CC system for targeting tumour gene therapy is formed from a 3-membered
 CC compound carrier of a ligand oligopeptide/polycationic
 CC polypeptide/endosome-release oligopeptide complex, and an exogenous
 CC DNA. The complexes are used for the treatment of cancer in the
 CC form of malignant tumour cells and tumour vascular endothelialocytes,
 CC and in gene therapy.

SQ Sequence 36 AA;

Query Match 89.5%; Score 77; DB 19; Length 36;
 Best Local Similarity 100.0%; Pred. No. 3e-07;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNTMOIMRIKPH 16
 |||||
 Db 5 EESNTMOIMRIKPH 19

RESULT 4
 AAE32330
 ID AAE32330 standard; Protein; 101 AA.

XX AAE32330;
 XX
 DT 24-MAR-2003 (first entry)

DE Human VEGF-A receptor binding domain.

KM Vascular endothelial growth factor; VEGF; angiogenesis; wound healing;
 KM bone growth; osteoporosis; osteoarthritis; bone reconstruction; ulcer;
 KM lesion; injury; trauma; periodontal condition; protein therapy; human.

OS Homo sapiens.

PN WO200263851-A2.

PD 24-OCT-2002.

PF 10-APR-2002; 2002WO-US11406.

PR 10-APR-2001; 2001US-0832355.

PA (GENV-) GENVEC INC.

PI Kovesdi I, Kessler PD;

XX WPI; 2003-075536/07.

PT New fusion protein comprising a non-heparin-binding vascular
 PT endothelial growth factor (VEGF) peptide portion and a non-VEGF peptide
 PT portion, useful for promoting angiogenesis and/or bone growth in
 PT mammals -

PS Disclosure; Page 118-119; 191pp; English.

CC The invention relates to a fusion protein comprising non-heparin binding
 CC vascular endothelial growth factor (VEGF) peptide portion and a non-VEGF
 CC peptide portion useful for promoting angiogenesis and/or bone growth in
 CC mammalian host. The fusion protein is useful for promoting angiogenesis,
 CC wound healing and bone growth. Compositions containing bone growth
 CC promoting fusion protein can be used to treat osteoporosis, rheumatoid
 CC or osteoarthritis, to improve poor bone healing, to promote implant
 CC integration and function of artificial joints and to facilitate bone
 CC reconstruction. They can also be used to treat e.g. ulcers, lesions,
 CC injuries, burns, trauma, periodontal conditions, lacerations and other
 CC conditions. The invention is also useful in protein therapy. The present
 CC sequence is human VEGF-A receptor binding domain.

SQ Sequence 101 AA;

Query Match 89.5%; Score 77; DB 24; Length 101;
 Best Local Similarity 100.0%; Pred. No. 9.8e-07;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 2 EESNTMOIMRIKPH 16
 |||||
 Db 64 EESNTMOIMRIKPH 78

RESULT 5
 AAU08484
 ID AAU08484 standard; Peptide; 102 AA.

XX AAU08484;

DT 21-NOV-2001 (first entry)

DE VEGFR-1 binding epitope from human VEGF-A.

KM Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KM angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KM psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KM cardiovascular; VEGFR-1.

OS Homo sapiens.

PN WO200162942-A2.

PD 30-AUG-2001.

PF 26-FEB-2001; 2001WO-US06113.

PR 25-FEB-2000; 2000US-0185205.

PR 18-MAY-2000; 2000US-0205331.

PA (LUDW-) LUDWIG INST CANCER RES.

PI Alitalo K, Jeltsch MM;

DR WPI; 2001-536640/59.

PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX Example 4; Page 115; 261pp; English.

CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents VEGFR-1 binding epitope from human
 CC VEGF-A.

SQ Sequence 102 AA;

Query Match 89.5%; Score 77; DB 22; Length 102;
 Best Local Similarity 100.0%; Pred. No. 9.9e-07;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNTMOIMRIKPH 16
 |||||
 Db 65 EESNTMOIMRIKPH 79

RESULT 6

AAB53387
 ID AAB53387 standard; Protein; 105 AA.
 XX
 AC AAB53387;
 XX
 DT 09-MAR-2001 (first entry)
 XX
 DE Human colon cancer antigen protein sequence SEQ ID NO:927.
 XX
 KW Human; colon cancer; colon cancer antigen; diagnosis; detection;
 KW identification; cytostatic; cardioactive; neuroprotective; vulnerary;
 KW immunomodulatory; muscular; gynaecological; gastrointestinal;
 KW nephrotoxic; antiinfective; antibacterial; gene therapy; wound;
 KW neural disorder; immune system disorder; muscular disorder;
 KW reproductive disorder; gastrointestinal disorder; renal disorder;
 KW infectious disease; cardiovascular disorder.
 XX
 OS Homo sapiens.
 XX
 FN WO20005351-A1.
 XX
 PD 21-SEP-2000.
 XX
 PF 08-MAR-2000; 2000WO-US05883.
 XX
 PR 12-MAR-1999; 99US-0124270.
 XX
 PA (HUMA-) HUMAN GENOME SCI INC.
 XX
 PI Rosen CA, Ruben SM;
 XX
 DR WPI; 2000-587534/55.
 DR N-PSDB; AAC98144.
 XX
 PT Colon cancer associated gene sequences, referred to as colon cancer
 PT antigens, useful for the treatment, prevention, and diagnosis of colon
 PT disorders such as colon cancer -
 XX
 PS Claim 11; Page 1486; 2104pp; English.
 XX
 CC AAC97991 to AAC98763 encode the human colon cancer associated proteins,
 CC called human colon cancer antigens, given in AAB53234 to AAB54006. The
 CC human colon cancer antigens can have cytostatic, cardioactive, muscular;
 CC neuroprotective, immunomodulatory, gynaecological, gastrointestinal,
 CC vulnerary, nephrotoxic, antiinfective and antibacterial activities, and
 CC can be used in gene therapy. The colon cancer antigen polynucleotides,
 CC proteins and antibodies to the proteins are useful for the prevention,
 CC treatment and diagnosis of colon disorders, such as colon cancer. The
 CC polynucleotides may be used in diagnostics and research, such as for
 CC chromosome identification, and as hybridisation probes. The proteins
 CC may also be used to prevent diseases such as neural disorders, immune
 CC system disorders, muscular disorders, reproductive disorders, infectious
 CC gastrointestinal disorders, wounds, renal disorders, infectious
 CC diseases, and cardiovascular disorders. AAC98764 to AAC98772 and
 CC AAB54007 represent sequences used in the exemplification of the present
 CC invention.
 CC
 SQ Sequence 105 AA;
 XX
 QY Query Match 89.5%; Score 77; DB 21; Length 105;
 QY Best Local Similarity 100.0%; Pred. No. 1e-06;
 QY Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 DB 2 EESNITMOIRIKPH 16
 DB 56 EESNITMOIRIKPH 70

XX
 DT 21-NOV-2001 (first entry)
 XX
 DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-1.
 XX
 KW Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.
 XX
 OS Homo sapiens.
 XX
 SS Synthetic.
 XX
 FH Key
 FT Domain
 FT Location/Qualifiers
 FT 1..102
 FT /note= "VEGF receptor binding domain"
 XX
 XX WO200162942-A2.
 XX
 PN 30-AUG-2001.
 XX
 PD 26-FEB-2001; 2001WO-US06113.
 XX
 PF 25-FEB-2000; 2000US-0185205.
 XX
 PR 18-MAY-2000; 2000US-0205331.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 PA (LICN) LICENTIA OY.
 XX
 PI Altalo K, Jeltsch MM;
 XX
 DR WPI; 2001-536640/59.
 DR N-PSDB; AAS12844.
 XX
 PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX
 PS Claim 35; Page 182; 261pp; English.
 XX
 CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-1.
 CC
 SQ Sequence 105 AA;
 XX
 QY Query Match 89.5%; Score 77; DB 22; Length 105;
 QY Best Local Similarity 100.0%; Pred. No. 1e-06;
 QY Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 DB 2 EESNITMOIRIKPH 16
 DB 65 EESNITMOIRIKPH 79

RESULT 7
 ID AAB53387 standard; Protein; 105 AA.
 AC AAB53387;
 DT 09-MAR-2001 (first entry).

RESULT 8
 ID AAB53387 standard; Protein; 105 AA.
 AC AAB53387;
 DT 09-MAR-2001 (first entry).

XX Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 12-5.
 XX
 DE Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 XX angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 XX cardiovascular; VEGF-C; mutant; mutein.
 OS Homo sapiens.
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Domain 1..102
 FT /note= "VEGF receptor binding domain"
 XX
 XX MO200162942-A2.
 XX
 PD 30-AUG-2001.
 XX
 PF 26-FEB-2001; 2001WO-US06113.
 XX
 PR 25-FEB-2000; 2000US-0185205.
 XX 18-MAY-2000; 2000US-0205331.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 XX (LICN) LICENTIA OY.
 XX
 PI Alitalo K, Jeltsch MM;
 XX WPI; 2001-536640/59.
 DR N-PSDB; AAS12848.
 DR
 XX
 PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX
 PS Claim 36; Page 186-187; 261pp; English.
 XX
 CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 12-5.
 CC
 SQ Sequence 105 AA;
 XX
 QY Query Match 89.5%; Score 77; DB 22; Length 105;
 DB Best Local Similarity 100.0%; Pred. No. 1e-06;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 XX 2 EESNITWQIMRIKPH 16
 XX |||||
 DB 65 EESNITWQIMRIKPH 79
 XX
 RESULT 9
 ID AAU08471 standard; Protein; 105 AA.
 XX
 AC AAU08471;
 XX
 DT 21-NOV-2001 (first entry)
 XX
 DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 53-3.

XX Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.
 OS Homo sapiens.
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT Domain 1..102
 FT /note= "VEGF receptor binding domain"
 XX
 XX MO200162942-A2.
 XX
 PD 30-AUG-2001.
 XX
 PF 26-FEB-2001; 2001WO-US06113.
 XX
 PR 25-FEB-2000; 2000US-0185205.
 XX 18-MAY-2000; 2000US-0205331.
 XX
 PA (LUDW-) LUDWIG INST CANCER RES.
 XX (LICN) LICENTIA OY.
 XX
 PI Alitalo K, Jeltsch MM;
 XX WPI; 2001-536640/59.
 DR N-PSDB; AAS12890.
 DR
 XX
 PT Polypeptides that bind cellular receptors for vascular endothelial
 PT growth factors, polynucleotides encoding them -
 XX
 PS Claim 46; Page 253; 261pp; English.
 XX
 CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 53-3.
 CC
 SQ Sequence 105 AA;
 XX
 QY Query Match 89.5%; Score 77; DB 22; Length 105;
 DB Best Local Similarity 100.0%; Pred. No. 1e-06;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 XX
 XX 2 EESNITWQIMRIKPH 16
 XX |||||
 DB 66 EESNITWQIMRIKPH 80
 XX
 RESULT 10
 ID AAU08472 standard; Protein; 105 AA.
 XX
 AC AAU08472;
 XX
 DT 21-NOV-2001 (first entry)
 XX
 DE Polypeptide encoded by human VEGF-A/VEGF-C hybrid clone 82-7.
 XX
 AC Human; vascular endothelial growth factor; VEGF-A; vasculogenesis;
 KW angiogenesis; blood vessel; cancer; proliferative retinopathy;
 KW psoriasis; age-related macular degeneration; rheumatoid arthritis;
 KW cardiovascular; VEGF-C; mutant; mutein.
 XX

OS Homo sapiens.
 OS Synthetic.
 XX WO200162942-A2.
 XX PD 30-AUG-2001.
 XX PF 26-FEB-2001; 2001WO-US06113.
 XX PR 25-FEB-2000; 2000US-0185205.
 XX PR 18-MAY-2000; 2000US-0205331.
 XX PA (LUDWIG) LUDWIG INST CANCER RES.
 XX PA (LICN) LICENTIA OY.
 XX PI Alitalo K, Jeltsch MM;
 XX WP1; 2001-536640/59.
 XX DR N-PSDB; AAS12891.
 XX PT Polypeptides that bind cellular receptors for vascular endothelial
 XX growth factors, polynucleotides encoding them -
 XX PS Claim 47; Page 254-255; 261pp; English.
 CC The present invention relates to polypeptides that bind cellular
 CC receptors for vascular endothelial growth factors (VEGFs), the
 CC polynucleotides encoding them, and their use for identifying agents that
 CC modulate interactions between VEGFs and their receptors. VEGFs and their
 CC receptors play an important role in vasculogenesis, the development of
 CC the embryonic vasculature from early differentiating endothelial cells
 CC and angiogenesis, the process of forming new blood vessels from
 CC pre-existing ones. Modulators of interactions between VEGF and its
 CC receptors may be used to treat dysfunction of the endothelial cell
 CC regulatory system. Such disorders include cancers, abnormal angiogenesis,
 CC proliferative retinopathies, age-related macular degeneration, rheumatoid
 CC arthritis and psoriasis. The polypeptides of the invention exhibit unique
 CC receptor binding profiles compared to known naturally occurring VEGFs.
 CC The present sequence represents the polypeptide encoded by human
 CC VEGF-A/VEGF-C hybrid construct clone 82-7.
 XX
 XX Sequence 105 AA;
 SQ
 Query Match 89.5%; Score 77; DB 22; Length 105;
 Best Local Similarity 100.0%; Pred. No. 1e-06;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
 |||||
 DB 65 EESNITWQIMRIKPH 79

RESULT 11
 AAY69417
 ID AAY69417 standard; Protein; 110 AA.
 XX
 XX AC AAY69417;
 XX DT 03-JUL-2000 (first entry)
 XX DE Amino acid sequence of vascular endothelial growth factor 110.
 XX
 XX Human; vascular endothelial growth factor; VEGF 110; angiogenic factor;
 XX blood vessel injury; vascular injury; microvascular angiopathy;
 XX thrombotic microangiopathy; kidney disease; haemolytic uremic syndrome;
 XX toxic shock syndrome; venom; hypercoagulable state; platelet activation;
 XX platelet aggregation; thrombosis; pre-eclampsia; sepsis; pancreatitis;
 XX intravascular coagulation; thrombotic thrombocytopenia purpura;
 XX acute renal failure; myocardial infarction; ischemic bowel disease;
 XX stroke; hypoxia; hypercapnia; fibrosis; toxic alveolar injury;
 XX acute respiratory distress syndrome; pneumonia; pulmonary emboli;
 XX birth prematurity disorder; wound; allergy; hypersensitivity;
 XX autoimmune disease; organ transplant; focal glomerulosclerosis;

KW amyloidosis.
 XX
 XX OS Homo sapiens.
 XX WO200013702-A2.
 XX PD 16-MAR-2000.
 XX PF 09-SEP-1999; 99WO-US20480.
 XX PR 09-SEP-1998; 98US-0099694.
 XX PR 26-MAR-1999; 99US-0126406.
 XX PR 27-MAR-1999; 99US-0126615.
 XX PA (SCIO-) SCIOS INC.
 XX PI Schreiner GF, Johnson RJ;
 XX WP1; 2000-256861/22.
 XX DR
 XX PT Novel methods and compositions for the prevention and treatment of
 XX PT microvascular angiopathies by administration of angiogenic factors such
 XX as vascular endothelial growth factor (VEGF) -
 XX PS Disclosure; Fig 12; 46pp; English.
 CC The present sequence represents native human vascular endothelial growth
 CC factor (VEGF) 110. VEGF is an angiogenic factor. VEGF proteins are used
 CC for the prevention or repair of injury to blood vessels or associated
 CC nonvascular tissues (served by the blood vessels) and for the prevention
 CC and repair of vascular injury associated with microvascular angiopathy,
 CC particularly thrombotic microangiopathy. The proteins methods may also
 CC be used for the prevention and treatment of kidney diseases associated
 CC with injury to, or atrophy of, the vasculature of the glomerulus and
 CC interstitium. Conditions which may be treated include haemolytic uremic
 CC syndrome, toxic shock syndrome, venom exposure, chemical exposure,
 CC hypercoagulable states, platelet activation or aggregation, thrombosis,
 CC pre-eclampsia, thrombotic thrombocytopenia purpura, disseminated
 CC intravascular coagulation, sepsis, pancreatitis, acute renal failure,
 CC myocardial infarction, ischemic bowel disease, transient ischemic
 CC attacks, stroke, hypoxia or hypercapnia or fibrosis arising from lung
 CC endothelium injury, acute respiratory distress syndrome, toxic alveolar
 CC injury, pneumonia, pulmonary emboli, birth prematurity disorders,
 CC wounds, allergic reactions, hypersensitivity, autoimmune diseases, organ
 CC transplants, focal glomerulosclerosis, and amyloidosis.
 XX
 XX Sequence 110 AA;
 SQ
 Query Match 89.5%; Score 77; DB 21; Length 110;
 Best Local Similarity 100.0%; Pred. No. 1e-06;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
 |||||
 DB 72 EESNITWQIMRIKPH 86

RESULT 12
 AAY83038
 ID AAY83038 standard; Protein; 110 AA.
 XX
 XX AC AAY83038;
 XX DT 04-JUL-2000 (first entry)
 XX DE Human vascular endothelial growth factor (hVEGF110).
 XX
 XX Vascular endothelial growth factor; human; angiogenesis; VEGF;
 XX capillary formation; hypertension; treatment; kidney; CNS; stroke;
 XX meningitis; central nervous system; tumour; infection; bone growth;
 XX hypoxia; hypercapnia; fibrosis; inflammatory bowel disease;
 XX diarrhoea; allografts; cardiac valve.

OS	Homo sapiens.
XX	
PN	WO200013703-A2.
PD	16-MAR-2000.
XX	
PF	09-SEP-1999; 99WMO-US20481.
XX	
PR	09-SEP-1998; 98US-0099694.
PR	26-MAR-1999; 99US-0126406.
PR	27-MAR-1999; 99US-0126615.
PA	(SCIO-) SCIOS INC.
PI	Schreiner GF, Johnson RJ;
DR	WPI; 2000-256862/22.
PT	Novel methods for treating hypertension by administering a factor which
PT	increases angiogenesis and/or vascular permeability -
PS	Disclosure; Figure 11; 51pp; English.
XX	
CC	Administering vascular endothelial growth factor (VEGF) can be used
CC	for treating hypertension (especially salt-dependent hypertension)
CC	Administration of VEGF promotes angiogenesis and/or vascular or
CC	capillary permeability. The method is also useful in treating
CC	disorders related to abnormal transport of solutes across endothelial
CC	cells. Such disorders include the treatment or prevention of kidney
CC	disease associated with impaired filtration or excretion of solutes;
CC	the treatment or prevention of diseases of the central nervous system
CC	associated with alterations in cerebrospinal fluid, e.g. stroke,
CC	meningitis, tumour, infections, and bone growth disorders; treatment
CC	or prevention of hypoxia or hypercapnia or fibrosis arising from
CC	accumulation of fluid secretions in the lungs, e.g. acute respiratory
CC	distress syndrome, toxic alveolar injury, pneumonia, infections,
CC	surgical intervention, cystic fibrosis; treatment or prevention of
CC	pulmonary dysfunction arising from injury to the pulmonary
CC	endothelium, including disorders arising from premature birth, and
CC	pulmonary hypertension; treatment or prevention of disease arising
CC	from disordered transport of fluid and solutes across the intestinal
CC	epithelium, e.g. inflammatory bowel disease, diarrhoea; treatment or
CC	prevention of ascites accumulation in the peritoneum; enhancement of
CC	efficacy of solute flux; preservation or enhancement of function of
CC	organ allografts; and treatment of cardiac valve disease. This
CC	sequence is the native human vascular endothelial growth factor hVegf110.
CC	The activity of VEGF is mediated by interaction
CC	with specific receptors on target tissues, most notably the vascular
CC	endothelium. VEGF exists as five different length monomer chains due
CC	to alternative splicing of the VEGF RNA transcript.
XX	
SQ	Sequence 110 AA;
	Query Match 89.5%; Score 77; DB 21; Length 110;
	Best Local Similarity 100.0%; Pred. No. 1, Is-06;
	Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Oy	2 EESNITWQIMRIKPH 16
Db	72 EESNITWQIMRIKPH 86
RESULT 13	
ID	AAG79276
XX	AAG79276 standard; peptide; 110 AA.
AC	AAG79276;
DT	03-JAN-2002 (first entry)
DE	Primary sequence of vascular endothelial growth factor (VEGF).
XX	
KX	Kinase domain receptor, KDR; vascular endothelial growth factor; VEGF;

```

KW VEGF antibody; angiogenesis; cancer; diabetic retinopathy; psoriasis;
KM hemangioblastoma; Kaposi's sarcoma.
XX
XX Unidentified.
OS
XX MO200172829-A2.
PN
XX 04-OCT-2001.
PD
XX
XX 29-MAR-2001; 2001MO-IB00577.
PF
XX 31-MAR-2000; 2000US-193396P.
PR
XX
XX (INSP ) INST PASTEUR.
PA (CNRS ) CNRS CENT NAT RECH SCT.
PP (UYPA-) UNIV PARIS 13 NORD.
PX
PI Tournaire R, Demangel C, Derbin C, Perret G, Mazie J, Plouet J;
PL Vaasy R;
PJ WPI; 2001-616471/71.
PK
XX Novel peptides inhibiting binding of vascular endothelial growth factor
PT (VEGF) to kinase domain receptor, or inhibiting binding of anti-VEGF
PT antibody to VEGF, useful for treating diabetic retinopathy and
PT psoriasis .
PX
XX Example; Page 21; 55pp; English.
PS
XX The present sequence represents vascular endothelial growth factor
CC (VEGF). The specification describes peptides which bind to an
CC anti-VEGF antibody or which bind to a Kinase domain receptor (KDR) .
CC The peptides inhibit the binding of VEGF to KDR, and inhibit binding
CC of anti-VEGF antibody to VEGF. The peptides are useful for inhibiting
CC angiogenesis and for treating diseases including cancer, diabetic
CC retinopathy, psoriasis, hemangioblastoma, and Kaposi's sarcoma.
CX
XX Sequence 110 AA;
SQ
Query Match 89.5%; Score 77; DB 22; Length 110;
Best Local Similarity 100.0%; Pred. No. 1,1e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 2 EESNITQWIKRKH 16
DB 72 EESNITQWIKRKH 86
|||||
|||
RESULT 14
AAB50436
ID AAB50436 standard; Protein; 110 AA.
XX
XX AAB50436;
AC
XX 13-MAR-2001 (first entry)
DT
XX Human VEGF110.
DE
XX Human; VEGF; vascular endothelial growth factor; VEGF121; VEGF145;
KW cardiant; cerebroprotective; hypotensive; nephrotropic; antidiabetic;
KW dermatological; immunosuppressive; antiinflammatory; cytostatic;
KW vasoactive; antibacterial; angiogenesis; vascular remodeling;
KW vascular disease; kidney disease; diabetes; systemic lupus erythematosus;
KW meningitis; tumour; infection; lung disease inflammatory bowel disease.
XX
XX Homo sapiens.
OS
XX WO200071713-A1.
PN
XX 30-NOV-2000.
PD
XX 18-MAY-2000; 2000WO-US13536.
PX

```

PR 20-MAY-1999; 99US-0135312.
 XX (SCIO-) SCIOS INC.
 XX
 PA Pollict NS, Abraham JA;
 XX
 PI WPI; 2001-025162/03.
 DR
 XX
 PT Enhancing biological activity of vascular endothelial growth factor by
 PT replacing a Cys residue, for producing variant useful for treating
 PT hypertension, stroke, diabetes, lupus, glomerulonephritis, meningitis,
 PT tumor, pneumonia, infections -
 XX
 PS Disclosure; Fig 12; 62pp; English.
 XX
 CC The present sequence is given in a specification relating to a method for
 CC enhancing the biological activity of a vascular endothelial growth factor
 CC (VEGF) originally having a cysteine residue at a position 116 of the 121
 CC amino acid native mature human VEGF. The method comprises eliminating the
 CC cysteine residue to produce a VEGF variant. The variant is useful for
 CC inducing angiogenesis or vascular remodeling, for prevention or repair
 CC of injury to blood vessels, where injury is associated with haemolytic
 CC uremic syndrome (HUS) or microvascular angiotomy such as thrombotic
 CC microangiopathy (TMA). The VEGF variant is also useful for treatment of
 CC essential hypertension in a patient. The variant is useful for treating
 CC coronary artery disease and/or peripheral arterial disease, to foster
 CC myocardial blood vessel growth and to improve blood flow to the heart. It
 CC is useful for the treatment and prevention of kidney diseases associated
 CC with injury to, or atrophy of, the vasculature of the glomerulus and
 CC interstitium and for the treatment and prevention of acute renal failure,
 CC myocardial infarction, ischaemic bowel disease, transient ischaemic
 CC attacks, stroke, hypoxia, hypercapnia, focal glomerulosclerosis,
 CC amyloidosis, glomerulonephritis, diabetes, systemic lupus erythematosus
 CC or chronic hypoxia/atrophy. It is also useful in the preservation or
 CC enhancement of function of organ allografts and xenografts, and for
 CC treating disorders related to abnormal transport of solutes across
 CC endothelial cells such as meningitis, tumour, infections, disorders of
 CC bone growth, acute respiratory distress syndrome, toxic alveolar injury,
 CC pneumonia, cystic fibrosis, inflammatory bowel disease, infectious
 CC diarrhoea or cardiac valve disease.
 CC
 XX
 SQ Sequence 110 AA;
 XX
 Query Match 89.5%; Score 77; DB 22; Length 110;
 Best Local Similarity 100.0%; Pred. No. 1.1e-06;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 2 EESNITWQIMRIKPH 16
 DB 72 EESNITWQIMRIKPH 86
 XX
 RESULT 15
 ID ABB76304 standard; Protein; 110 AA.
 XX
 AC ABB76304;
 XX
 DT 12-AUG-2002 (first entry)
 XX
 DE Human vascular endothelial growth factor 110.
 XX
 KW Vascular endothelial growth factor; VEGF; hVEGF10; human;
 KW hypertension; hypotensive; nephrotropic; cerebroprotective;
 KW antibacterial; cytostatic; antialcoholic; virucide; vasotropic;
 KW antidiabetic; immunosuppressive; cardiant; antiinflammatory;
 KW angiogenic factor.
 XX
 OS Homo sapiens.
 XX
 XX US6352975-B1.
 PN
 XX 05-MAR-2002.
 PD

XX
 PF 09-SEP-1999; 99US-0392932.
 XX
 PR 09-SEP-1998; 98US-099694P.
 PR 26-MAR-1999; 99US-126406P.
 PR 27-MAR-1999; 99US-126615P.
 XX
 PA (SCIO-) SCIOS INC.
 XX
 PI Schreiner GF, Johnson RJ;
 XX
 DR WPI; 2002-412951/44.
 XX
 PT New method, useful in treatment of salt-sensitive hypertension,
 PT comprises administration of a vascular endothelial growth factor to a
 PT patient -
 XX
 PS Disclosure; Fig 11; 30pp; English.
 XX
 CC The present sequence is the protein sequence of human vascular
 CC endothelial growth factor 110 (hVEGF10). The present invention
 CC concerns methods for the treatment of salt-sensitive hypertension
 CC by administering a VEGF in an amount effective to reduce the blood
 CC pressure of a salt-sensitive hypertension patient to a normal
 CC range. The VEGF is preferably hVEGF121 (see ABB76299) or a VEGF
 CC that has had its heparin-binding domain modified to render it
 CC incapable of binding heparin, e.g. by amino acid alteration.
 CC VEGF10 is not one of the preferred VEGF molecules. The method can
 CC also be used to treat disorders relating to abnormal transport of
 CC solutes across endothelial cells, including treatment or prevention
 CC of kidney disease associated with impaired filtration or excretion
 CC of solutes, central nervous system diseases associated with
 CC alterations in cerebrospinal fluid synthesis, composition or
 CC circulation including stroke, meningitis, tumour, infections, and
 CC disorders of bone growth, hypoxia or hypercapnia or fibrosis
 CC arising from accumulation of fluid secretions in lungs or
 CC impeding them to their removal, including acute respiratory distress
 CC syndrome, toxic alveolar injury as occurs in smoke inhalation,
 CC pneumonia including viral and bacterial infections, surgical
 CC interventions, cystic fibrosis, and other inherited or acquired
 CC disease of the lung associated with fluid accumulation in the
 CC pulmonary air space, pulmonary endothelium injury, disordered
 CC transport of fluid and solutes across the intestinal epithelium,
 CC including inflammatory bowel disease, infections, diarrhoea,
 CC ascites accumulation in the peritoneum as occurs in the failure of
 CC heart, liver and kidney, preservation and enhancement of function
 CC of organ allografts, and cardiac valve disease.
 CC
 XX
 SQ Sequence 110 AA;
 XX
 Query Match 89.5%; Score 77; DB 23; Length 110;
 Best Local Similarity 100.0%; Pred. No. 1.1e-06;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 2 EESNITWQIMRIKPH 16
 DB 72 EESNITWQIMRIKPH 86
 XX
 Search completed: January 30, 2004, 11:40:08
 Job time : 22.0327 secs

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:35:33 ; Search time 6.81026 Seconds
(without alignments)
99.405 Million cell updates/sec

Title: US-09-266-543-9

Perfect score: 86

Sequence: 1 CESNITQIMRIKPH 16

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 328717 seqs, 42310858 residues

Total number of hits satisfying chosen parameters: 328717

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents AA:
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2: /cgn2_6/ptodata/1/1aa/5B.COMB.pep:*
3: /cgn2_6/ptodata/1/1aa/6A.COMB.pep:*
4: /cgn2_6/ptodata/1/1aa/6B.COMB.pep:*
5: /cgn2_6/ptodata/1/1aa/PTCUS.COMB.pep:*
6: /cgn2_6/ptodata/1/1aa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	77	89.5	36	US-09-092-000-4	Sequence 4, Appl1
2	77	89.5	109	US-08-691-794-3	Sequence 3, Appl1
3	77	89.5	110	US-09-392-932-11	Sequence 11, Appl1
4	77	89.5	110	US-09-574-708A-11	Sequence 11, Appl1
5	77	89.5	110	US-09-822-270-17	Sequence 17, Appl1
6	77	89.5	121	5194596-19	Patent No. 5194596
7	77	89.5	121	5219739-20	Patent No. 5219739
8	77	89.5	136	US-09-037-983C-15	Sequence 15, Appl1
9	77	89.5	137	US-09-037-983C-17	Sequence 17, Appl1
10	77	89.5	138	US-09-037-983C-16	Sequence 16, Appl1
11	77	89.5	141	US-09-519-476-2	Sequence 2, Appl1
12	77	89.5	145	US-08-784-551C-2	Sequence 2, Appl1
13	77	89.5	145	US-09-392-932-2	Sequence 2, Appl1
14	77	89.5	145	US-09-574-708A-4	Sequence 4, Appl1
15	77	89.5	145	US-09-037-983C-2	Sequence 2, Appl1
16	77	89.5	147	US-08-807-992B-1	Sequence 1, Appl1
17	77	89.5	147	US-09-392-932-1	Sequence 1, Appl1
18	77	89.5	147	US-08-706-054A-4	Sequence 4, Appl1
19	77	89.5	147	US-09-574-708A-2	Sequence 2, Appl1
20	77	89.5	147	US-09-431-888-3	Sequence 3, Appl1
21	77	89.5	147	US-09-313-299-4	Sequence 4, Appl1
22	77	89.5	147	US-09-244-583-24	Sequence 24, Appl1
23	77	89.5	165	US-08-882-816-3	Sequence 3, Appl1
24	77	89.5	165	US-08-802-052B-3	Sequence 3, Appl1
25	77	89.5	165	5194596-18	Patent No. 5194596
26	77	89.5	165	5219739-19	Patent No. 5219739
27	77	89.5	188	US-09-244-583-28	Sequence 28, Appl1

28	77	89.5	191	US-08-567-200A-2	Sequence 2, Appl1
29	77	89.5	191	US-08-807-992B-2	Sequence 2, Appl1
30	77	89.5	191	US-08-691-794-2	Sequence 2, Appl1
31	77	89.5	191	US-08-795-430-56	Sequence 56, Appl1
32	77	89.5	191	US-09-392-932-3	Sequence 3, Appl1
33	77	89.5	191	US-09-355-700-56	Sequence 56, Appl1
34	77	89.5	191	US-08-882-816-2	Sequence 2, Appl1
35	77	89.5	191	US-09-574-708A-6	Sequence 6, Appl1
36	77	89.5	191	US-08-802-052B-2	Sequence 2, Appl1
37	77	89.5	191	US-09-431-888-4	Sequence 4, Appl1
38	77	89.5	191	5332671-4	Patent No. 5332671
39	77	89.5	208	US-09-244-583-26	Sequence 26, Appl1
40	77	89.5	213	US-09-574-708A-8	Sequence 8, Appl1
41	77	89.5	214	5240848-11	Patent No. 5240848
42	77	89.5	215	US-08-807-992B-3	Sequence 3, Appl1
43	77	89.5	215	US-08-586-039B-49	Sequence 49, Appl1
44	77	89.5	215	US-09-699-769-49	Sequence 49, Appl1
45	77	89.5	215	5240848-7	Patent No. 5240848

ALIGNMENTS

```

RESULT 1
US-09-092-000-4
; Sequence 4, Application US/09092000
; Patent No. 6339139
; GENERAL INFORMATION:
; APPLICANT: Tian, Jian-ten
; TITLE OF INVENTION: Receptor-Mediated Gene Transfer System for Targeting
; TITLE OF INVENTION: Tumor Gene Therapy
; FILE REFERENCE: Gu
; CURRENT APPLICATION NUMBER: US/09/092,000
; CURRENT FILING DATE: 1998-08-26
; EARLIER APPLICATION NUMBER: 96 116557.X
; EARLIER FILING DATE: 1996-10-31
; EARLIER APPLICATION NUMBER: PCT/CN97/00106
; EARLIER FILING DATE: 1997-10-27
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 4
; LENGTH: 36
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Ligand
; OTHER INFORMATION: oligopeptide for the receptor region of VEGF.
US-09-092-000-4
Query Match      89.5%; Score 77; DB 4; Length 36;
Best Local Similarity 100.0%; Pred. No. 3.3e-08;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY      2 EESNITQIMRIKPH 16
Db      5 EESNITQIMRIKPH 19
RESULT 2
US-08-691-794-3
; Sequence 3, Application US/08691794
; Patent No. 6057428
; GENERAL INFORMATION:
; APPLICANT: Keyt, Bruce A.
; APPLICANT: Nguyen, Francis H.
; APPLICANT: Ferrara, Napoleone
; APPLICANT: Cunningham, Brian C.
; APPLICANT: Wells, James A.
; TITLE OF INVENTION: Variants of Vascular Endothelial Cell
; TITLE OF INVENTION: Growth Factor, Their Uses, and Processes for their
; TITLE OF INVENTION: Production

```

NUMBER OF SEQUENCES: 45
CORRESPONDENCE ADDRESS:
ADDRESSEE: Flehr, Hohbach, Test, Albritton & Herbert
STREET: Four Embarcadero Center, Suite 3400
CITY: San Francisco
STATE: California
COUNTRY: United States
ZIP: 94111-4187
COMPUTER READABLE FORM:
MEDIUM TYPE: floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/691,794
FILING DATE: 02-AUG-1996
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/002,827
FILING DATE: 25-AUG-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/567,200
FILING DATE: 05-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Dreger, Walter H.
REGISTRATION NUMBER: 24,190
REFERENCE/DOCKET NUMBER: A-63758/MHD
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 109 amino acids
TYPE: amino acid
STRANDEDNESS: unknown
TOPOLOGY: unknown
MOLECULE TYPE: protein
US-08-691-794-3

Query Match 89.5%; Score 77; DB 3; Length 109;
Best Local Similarity 100.0%; Pred. No. 1.2e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 EESNITWQIMRIKPH 16
Db 72 EESNITWQIMRIKPH 86

RESULT 3
US-09-392-932-11
Sequence 11, Application US/09392932
Patent No. 6352975
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS.002A
CURRENT APPLICATION NUMBER: US/09/392,932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099,694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-392-932-11

Query Match 89.5%; Score 77; DB 4; Length 110;
Best Local Similarity 100.0%; Pred. No. 1.3e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 EESNITWQIMRIKPH 16
Db 72 EESNITWQIMRIKPH 86

RESULT 4
US-09-574-708A-11
Sequence 11, Application US/09574708A
Patent No. 6475796
GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
FILE REFERENCE: SCIOS004A
CURRENT APPLICATION NUMBER: US/09/574,708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 11
LENGTH: 110
TYPE: PRT
ORGANISM: Homo sapiens
US-09-574-708A-11

Query Match 89.5%; Score 77; DB 4; Length 110;
Best Local Similarity 100.0%; Pred. No. 1.3e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 EESNITWQIMRIKPH 16
Db 72 EESNITWQIMRIKPH 86

RESULT 5
US-09-822-270-17
Sequence 17, Application US/09822270
Patent No. 6559126
GENERAL INFORMATION:
APPLICANT: TOURNIAIRE, ROSELYNE
APPLICANT: DEMANGEL, CAROLINE
APPLICANT: DERBIN, CLAUDE
APPLICANT: PERRET, GERARD
APPLICANT: MAZIE, JEAN-CLAUDE
APPLICANT: PLOUET, JEAN
APPLICANT: VASSAY, ROGER
TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDI-
TITLE OF INVENTION: ANGIOGENESIS, POLYNUCLEOTIDES ENCODING SAID PEPTIDES AND METHOD
FILE REFERENCE: 205060U0
CURRENT APPLICATION NUMBER: US/09/822,270
CURRENT FILING DATE: 2001-04-02
PRIOR APPLICATION NUMBER: US 60/199,396
PRIOR FILING DATE: 2000-03-31
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 110
TYPE: PRT
ORGANISM: ARTIFICIAL SEQUENCE
FEATURE:
OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-822-270-17

Query Match 89.5%; Score 77; DB 4; Length 110;
Best Local Similarity 100.0%; Pred. No. 1.3e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 EESNITWQIMRIKPH 16
Db 72 EESNITWQIMRIKPH 86

Db 72 EESNITWQIMRIKPH 86

RESULT 6
5194596-19
Patent No. 5194596
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES, JOHN
C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: PRODUCTION OF VASCULAR ENDOTHELIAL CELL
GROWTH FACTOR
NUMBER OF SEQUENCES: 32
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/450,883
FILING DATE: 14-DEC-1989
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 19
5194596-19
LENGTH: 121

Query Match 89.5%; Score 77; DB 6; Length 121;
Best Local Similarity 100.0%; Pred. No. 1.4e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 EESNITWQIMRIKPH 16
Db 72 EESNITWQIMRIKPH 86

RESULT 7
5219739-20
Patent No. 5219739
APPLICANT: TISCHER, EDMUND G.; ABRAHAM, JUDITH A.; FIDDES,
JOHN C.; MITCHELL, RICHARD L.
TITLE OF INVENTION: DNA SEQUENCES ENCODING BVGEF120 AND
HVEGF 121 AND METHODS FOR THE PRODUCTION OF BOVINE AND HUMAN
VASCULAR ENDOTHELIAL CELL GROWTH FACTORS, BVGEF120 AND HVEGF121
NUMBER OF SEQUENCES: 40
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/559,041
FILING DATE: 27-JUL-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 450,883
FILING DATE: 14-DEC-1989
APPLICATION NUMBER: 387,545
FILING DATE: 27-JUL-1989
SEQ ID NO: 20
5219739-20
LENGTH: 121

Query Match 89.5%; Score 77; DB 6; Length 121;
Best Local Similarity 100.0%; Pred. No. 1.4e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 EESNITWQIMRIKPH 16
Db 72 EESNITWQIMRIKPH 86

RESULT 8
US-09-037-983C-15
Sequence 15; Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfield, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11

PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 15
LENGTH: 136
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-15

Query Match 89.5%; Score 77; DB 4; Length 136;
Best Local Similarity 100.0%; Pred. No. 1.6e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 EESNITWQIMRIKPH 16
Db 72 EESNITWQIMRIKPH 86

RESULT 9
US-09-037-983C-17
Sequence 17; Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfield, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 17
LENGTH: 137
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-17

Query Match 89.5%; Score 77; DB 4; Length 137;
Best Local Similarity 100.0%; Pred. No. 1.6e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 EESNITWQIMRIKPH 16
Db 72 EESNITWQIMRIKPH 86

RESULT 10
US-09-037-983C-16
Sequence 16; Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfield, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodavsky, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: PatentIn version 3.1
SEQ ID NO 16
LENGTH: 138
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-16

Query Match 89.5%; Score 77; DB 4; Length 138;
Best Local Similarity 100.0%; Pred. No. 1.7e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
DB 72 EESNITWQIMRIKPH 86

RESULT 11

US-09-519-476-2
Sequence 2, Application US/09519476
Patent No. 6506884
GENERAL INFORMATION:
APPLICANT: MINTZ, Ilat et al.
TITLE OF INVENTION: NOVEL NUCLEIC ACID AND AMINO ACID SEQUENCES
FILE REFERENCE: 2786-0149P
CURRENT APPLICATION NUMBER: US/09/519.476
CURRENT FILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: I1128852
PRIOR FILING DATE: 1999-03-05
NUMBER OF SEQ ID NOS: 2
SOFTWARE: PatentIn version 3.0
SEQ ID NO 2
LENGTH: 141
TYPE: PRT
ORGANISM: Homo sapiens
US-09-519-476-2

Query Match 89.5%; Score 77; DB 4; Length 141;
Best Local Similarity 100.0%; Pred. No. 1.7e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
DB 98 EESNITWQIMRIKPH 112

RESULT 12

US-08-784-551C-2
Sequence 2, Application US/08784551C
Patent No. 6013780
GENERAL INFORMATION:
APPLICANT: Gera Neufeld
APPLICANT: Eli Keshet
APPLICANT: Israel Vlodavsky
APPLICANT: Zoya Poltorak
TITLE OF INVENTION: ANGIOGENIC FACTOR AND USE THEREOF
TITLE OF INVENTION: IN TREATING CARDIOVASCULAR DISEASE
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: Blank, Rome, Comisky & McCauley LLP
STREET: 900 17th Street, N.W.
CITY: Washington, D.C.
STATE: N/A
COUNTRY: U.S.A.
ZIP: 20006
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Diskette, 1.44 Mb
MEDIUM TYPE: storage
COMPUTER: IBM Compatible
OPERATING SYSTEM: IBM P.C. DOS 5.0
SOFTWARE: FastSeq for Windows 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/784.551C
FILING DATE: January 21, 1997
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
ATTORNEY/AGENT INFORMATION:

NAME: Cohen, Herbert
REGISTRATION NUMBER: 25,109
REFERENCE/DOCKET NUMBER: 0274.005/P003
TELECOMMUNICATION INFORMATION:
TELEPHONE: (202) 463-7700
TELEFAX: (202) 463-6915
TELEX:
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 145 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
US-08-784-551C-2

Query Match 89.5%; Score 77; DB 3; Length 145;
Best Local Similarity 100.0%; Pred. No. 1.8e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
DB 72 EESNITWQIMRIKPH 86

RESULT 13

US-09-392-932-2
Sequence 2, Application US/09392932
Patent No. 6352975
GENERAL INFORMATION:
APPLICANT: Schreiner, George F.
APPLICANT: Johnson, Richard J.
TITLE OF INVENTION: METHODS OF TREATING HYPERTENSION AND
TITLE OF INVENTION: COMPOSITIONS FOR USE THEREIN
FILE REFERENCE: SCIOS 002A
CURRENT APPLICATION NUMBER: US/09/392.932
CURRENT FILING DATE: 1999-09-09
EARLIER APPLICATION NUMBER: 60/099.694
EARLIER FILING DATE: 1998-09-09
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 145
TYPE: PRT
ORGANISM: Homo Sapiens
US-09-392-932-2

Query Match 89.5%; Score 77; DB 4; Length 145;
Best Local Similarity 100.0%; Pred. No. 1.8e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
DB 72 EESNITWQIMRIKPH 86

RESULT 14

US-09-574-708A-4
Sequence 4, Application US/09574708A
Patent No. 6475796
GENERAL INFORMATION:
APPLICANT: N. Stephen Pollitt
APPLICANT: Judith A. Abraham
TITLE OF INVENTION: Vascular endothelial growth factor
TITLE OF INVENTION: variants
FILE REFERENCE: SCIOS004A
CURRENT APPLICATION NUMBER: US/09/574.708A
CURRENT FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/135,312
PRIOR FILING DATE: 1999-05-20
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 4
LENGTH: 145

TYPE: PRT
ORGANISM: Homo sapiens
US-09-574-708A-4

Query Match 89.5%; Score 77; DB 4; Length 145;
Best Local Similarity 100.0%; Pred. No. 1.8e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITMOIMRIKPH 16
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Db 72 EESNITMOIMRIKPH 86

RESULT 15

US-09-037-983C-2
Sequence 2, Application US/09037983C
Patent No. 6583276
GENERAL INFORMATION:
APPLICANT: Newfeld, Gera
APPLICANT: Keshet, Eli
APPLICANT: Vlodayevy, Israel
APPLICANT: Poltorak, Zoya
TITLE OF INVENTION: Angiogenic Factor and Use Thereof in Treating Cardiovascular Disease
FILE REFERENCE: 000274-00009
CURRENT APPLICATION NUMBER: US/09/037,983C
CURRENT FILING DATE: 1998-03-11
PRIOR APPLICATION NUMBER: 60/025,537
PRIOR FILING DATE: 1996-09-06
NUMBER OF SEQ ID NOS: 17
SOFTWARE: Patent in version 3.1
SEQ ID NO 2
LENGTH: 145
TYPE: PRT
ORGANISM: Homo sapiens
US-09-037-983C-2

Query Match 89.5%; Score 77; DB 4; Length 145;
Best Local Similarity 100.0%; Pred. No. 1.8e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITMOIMRIKPH 16
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Db 72 EESNITMOIMRIKPH 86

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Job time : 6.81026 secs

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:44:49 ; Search time 15.8359 Seconds
(without alignments)
209.978 Million cell updates/sec

Title: US-09-266-543-9
Perfect score: 86
Sequence: 1 CEESNITWQIRKPH 16

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Gapop 10.0, Gapext 0.5

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Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	77	89.5	47	US-10-139-876-13	Sequence 13, Appl
2	77	89.5	79	US-10-086-623-14	Sequence 14, Appl
3	77	89.5	79	US-10-260-539-14	Sequence 14, Appl
4	77	89.5	101	US-09-832-355A-2	Sequence 2, Appl
5	77	89.5	105	US-09-925-299-927	Sequence 927, App
6	77	89.5	105	US-09-795-006A-51	Sequence 51, Appl
7	77	89.5	105	US-09-795-006A-59	Sequence 59, Appl
8	77	89.5	105	US-09-795-006A-161	Sequence 161, Appl
9	77	89.5	105	US-09-795-006A-163	Sequence 163, App
10	77	89.5	105	US-09-925-299-927	Sequence 927, App
11	77	89.5	110	US-09-823-270-17	Sequence 17, Appl
12	77	89.5	110	US-10-342-371-17	Sequence 17, Appl
13	77	89.5	110	US-10-392-931-10	Sequence 10, Appl
14	77	89.5	110	US-10-392-931-11	Sequence 11, Appl
15	77	89.5	110	US-10-418-529-10	Sequence 10, Appl

16	77	89.5	110	US-10-418-529-11	Sequence 11, Appl
17	77	89.5	110	US-10-083-817-11	Sequence 11, Appl
18	77	89.5	110	US-10-268-447-11	Sequence 11, Appl
19	77	89.5	121	US-09-832-355A-1	Sequence 1, Appl
20	77	89.5	126	US-09-795-006A-43	Sequence 43, Appl
21	77	89.5	126	US-09-795-006A-55	Sequence 55, Appl
22	77	89.5	126	US-09-795-006A-63	Sequence 63, Appl
23	77	89.5	127	US-09-795-006A-47	Sequence 47, Appl
24	77	89.5	127	US-09-795-006A-83	Sequence 83, Appl
25	77	89.5	127	US-09-795-006A-87	Sequence 87, Appl
26	77	89.5	127	US-09-795-006A-91	Sequence 91, Appl
27	77	89.5	127	US-09-795-006A-95	Sequence 95, Appl
28	77	89.5	141	US-10-298-794-2	Sequence 2, Appl
29	77	89.5	145	US-10-319-828-2	Sequence 2, Appl
30	77	89.5	145	US-10-392-931-2	Sequence 2, Appl
31	77	89.5	145	US-10-418-529-4	Sequence 4, Appl
32	77	89.5	145	US-10-083-817-2	Sequence 2, Appl
33	77	89.5	145	US-10-268-447-4	Sequence 4, Appl
34	77	89.5	147	US-10-346-802-4	Sequence 4, Appl
35	77	89.5	147	US-10-392-931-2	Sequence 2, Appl
36	77	89.5	147	US-10-418-529-2	Sequence 2, Appl
37	77	89.5	147	US-10-083-817-1	Sequence 1, Appl
38	77	89.5	147	US-10-268-447-2	Sequence 2, Appl
39	77	89.5	150	US-09-832-355A-61	Sequence 61, Appl
40	77	89.5	154	US-09-832-355A-59	Sequence 59, Appl
41	77	89.5	154	US-09-832-355A-62	Sequence 62, Appl
42	77	89.5	162	US-09-832-355A-60	Sequence 60, Appl
43	77	89.5	164	US-10-293-157-24	Sequence 24, Appl
44	77	89.5	165	US-10-318-102-1	Sequence 1, Appl
45	77	89.5	165	US-10-200-050-3	Sequence 3, Appl

ALIGNMENTS

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RESULT 1
US-10-139-876-13
; Sequence 13, Application US/10139876
; Publication No. US20020123481A1
GENERAL INFORMATION:
APPLICANT: Oliviero, Salvatore
TITLE OF INVENTION: C-Fos Induced Growth Factor (Figf) And Dna Encoding Same
FILE REFERENCE: 35784/205172
CURRENT APPLICATION NUMBER: US/10/139,876
CURRENT FILING DATE: 2002-05-07
PRIOR APPLICATION NUMBER: 09/043,476
PRIOR FILING DATE: 1998-03-18
PRIOR APPLICATION NUMBER: PCT/IB96/0113
PRIOR FILING DATE: 1996-09-30
PRIOR APPLICATION NUMBER: GB9612368.2
PRIOR FILING DATE: 1996-06-13
PRIOR APPLICATION NUMBER: GB9519928.7
PRIOR FILING DATE: 1995-09-29
NUMBER OF SEQ ID NOS: 20
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 13
LENGTH: 47
TYPE: PRT
ORGANISM: unknown
FEATURE:
OTHER INFORMATION: mammalian
FEATURE:
NAME/KEY: PEPTIDE
LOCATION: (1)...(47)
OTHER INFORMATION: segment of VEGF
US-10-139-876-13
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Query Match 89.5%; Score 77; DB 14; Length 47;
Best Local Similarity 100.0%; Pred. No. 9.5e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 2 EESNITWQIRKPH 16
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Db 12 EESNITWQIMRIKPH 26

RESULT 2

US-10-086-623-14

Sequence 14, Application US/10086623
Publication No. US20020164710A1

GENERAL INFORMATION:

APPLICANT: ERIKSSON, Ulf
APPLICANT: AASE, Karin

APPLICANT: LI, Xuri

APPLICANT: PONTEN, Annica

APPLICANT: TUTELA, Marko

APPLICANT: ALITALO, Karl

APPLICANT: OESTMAN, Arne

APPLICANT: HELDIN, Carl-Henrik

TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D, DNA CODING THEREFOR AND USES TH

FILE REFERENCE: 1064/44833C2

CURRENT FILING DATE: 2000-03-04

PRIOR APPLICATION NUMBER: US 60/107,852

PRIOR FILING DATE: 1998-11-10

PRIOR APPLICATION NUMBER: US 60/113,997

PRIOR FILING DATE: 1998-12-28

PRIOR APPLICATION NUMBER: US 60/150,604

PRIOR FILING DATE: 1999-08-26

PRIOR APPLICATION NUMBER: US 60/157,108

PRIOR FILING DATE: 1999-10-04

PRIOR APPLICATION NUMBER: US 60/157,756

PRIOR FILING DATE: 1999-10-05

PRIOR APPLICATION NUMBER: US 09/438,046

PRIOR FILING DATE: 1999-11-10

PRIOR APPLICATION NUMBER: US 09/691,200

PRIOR FILING DATE: 2000-10-19

NUMBER OF SEQ ID NOS: 42

SOFTWARE: PatentIn version 3.1

SEQ ID NO 14

LENGTH: 79

TYPE: PRT

ORGANISM: Homo sapiens

FEATURE:

NAME/KEY: misc feature

OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165

US-10-086-623-14

Query Match 89.5%; Score 77; DB 14; Length 79;

Best Local Similarity 100.0%; Pred. No. 1.7e-06;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16

Db 47 EESNITWQIMRIKPH 61

RESULT 3

US-10-260-539-14

Sequence 14, Application US/10260539
Publication No. US20030073637A1

GENERAL INFORMATION:

APPLICANT: ERIKSSON, Ulf

APPLICANT: AASE, Karin

APPLICANT: LI, Xuri

APPLICANT: PONTEN, Annica

APPLICANT: TUTELA, Marko

APPLICANT: ALITALO, Karl

APPLICANT: OESTMAN, Arne

APPLICANT: HELDIN, Carl-Henrik

TITLE OF INVENTION: PLATELET DERIVED GROWTH FACTOR D, DNA CODING THEREFOR AND USES TH

FILE REFERENCE: 1064/44833C2

CURRENT FILING DATE: 2002-10-01

PRIOR APPLICATION NUMBER: US/10/260,539

PRIOR FILING DATE: 2000-03-04

PRIOR APPLICATION NUMBER: US 60/107,852

PRIOR FILING DATE: 1998-11-10

PRIOR APPLICATION NUMBER: US 60/113,997

PRIOR FILING DATE: 1998-12-28

PRIOR APPLICATION NUMBER: US 60/150,604

PRIOR FILING DATE: 1999-08-26

PRIOR APPLICATION NUMBER: US 60/157,108

PRIOR FILING DATE: 1999-10-04

PRIOR APPLICATION NUMBER: US 60/157,756

PRIOR FILING DATE: 1999-10-05

PRIOR APPLICATION NUMBER: US 09/438,046

PRIOR FILING DATE: 1999-11-10

PRIOR APPLICATION NUMBER: US 09/691,200

PRIOR FILING DATE: 2000-10-19

NUMBER OF SEQ ID NOS: 42

SOFTWARE: PatentIn version 3.1

SEQ ID NO 14

LENGTH: 79

TYPE: PRT

ORGANISM: Homo sapiens

FEATURE:

NAME/KEY: misc feature

OTHER INFORMATION: PDGF/VEGF-homology domain of VEGF-165

US-10-260-539-14

Query Match 89.5%; Score 77; DB 15; Length 79;

Best Local Similarity 100.0%; Pred. No. 1.7e-06;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16

Db 47 EESNITWQIMRIKPH 61

RESULT 4

US-09-832-355A-2

Sequence 2, Application US/09832355A
Publication No. US2003002751A1

GENERAL INFORMATION:

APPLICANT: Kovacsdi, Imre

APPLICANT: Kessler, Paul

TITLE OF INVENTION: VEGF FUSION PROTEINS

FILE REFERENCE: 205654

CURRENT APPLICATION NUMBER: US/09/832,355A

CURRENT FILING DATE: 2001-04-10

NUMBER OF SEQ ID NOS: 126

SOFTWARE: PatentIn version 3.0

SEQ ID NO 2

LENGTH: 101

TYPE: PRT

ORGANISM: Homo sapiens

US-09-832-355A-2

Query Match 89.5%; Score 77; DB 11; Length 101;

Best Local Similarity 100.0%; Pred. No. 2.3e-06;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16

Db 64 EESNITWQIMRIKPH 78

RESULT 5

US-09-925-299-927

Sequence 927, Application US/09925299
Patent No. US20020055627A1

GENERAL INFORMATION:

APPLICANT: Rosen et al.

TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies

FILE REFERENCE: PA102

CURRENT APPLICATION NUMBER: US/09/925,299

CURRENT FILING DATE: 2001-08-10

PRIOR APPLICATION NUMBER: PCT/US00/05883

PRIOR FILING DATE: 2000-03-08
PRIOR APPLICATION NUMBER: 60/124,270
PRIOR FILING DATE: 1999-03-12
NUMBER OF SEQ ID NOS: 1556
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 927
LENGTH: 105
TYPE: PRT
ORGANISM: Homo sapiens.
US-09-925-299-927

Query Match 89.5%; Score 77; DB 9; Length 105;
Best Local Similarity 100.0%; Pred. No. 2.4e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
DB 56 EESNITWQIMRIKPH 70

RESULT 6
US-09-795-006A-51
Sequence 51, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Allcalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAs AND PROTEINS
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795, 006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 51
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-51

Query Match 89.5%; Score 77; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 2.4e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
DB 65 EESNITWQIMRIKPH 79

RESULT 7
US-09-795-006A-59
Sequence 59, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Allcalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAs AND PROTEINS
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795, 006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 59
LENGTH: 105

TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-59

Query Match 89.5%; Score 77; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 2.4e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
DB 65 EESNITWQIMRIKPH 79

RESULT 8
US-09-795-006A-161
Sequence 161, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Allcalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAs AND PROTEINS
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795, 006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 161
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-161

Query Match 89.5%; Score 77; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 2.4e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNITWQIMRIKPH 16
DB 66 EESNITWQIMRIKPH 80

RESULT 9
US-09-795-006A-163
Sequence 163, Application US/09795006A
Patent No. US20020151680A1
GENERAL INFORMATION:
APPLICANT: Allcalo et al
TITLE OF INVENTION: MATERIALS AND METHODS INVOLVING HYBRID VASCULAR
TITLE OF INVENTION: ENDOTHELIAL GROWTH FACTOR DNAs AND PROTEINS
FILE REFERENCE: 28967/35977B
CURRENT APPLICATION NUMBER: US/09/795, 006A
CURRENT FILING DATE: 2001-02-26
PRIOR APPLICATION NUMBER: US 60/205,331
PRIOR FILING DATE: 2000-05-18
PRIOR APPLICATION NUMBER: US 60/185,205
PRIOR FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 175
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 163
LENGTH: 105
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: amino acid sequence of hybrid
US-09-795-006A-163

```
Query Match      89.5%; Score 77; DB 10; Length 105;
Best Local Similarity 100.0%; Pred. No. 2.4e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      2 EESNITWQIMRIKPH 16
      |||||
Db      65 EESNITWQIMRIKPH 79

RESULT 10
US-09-925-299-927
; Sequence 927, Application US/09925299
; Publication No. US20030040617A9
; GENERAL INFORMATION:
; APPLICANT: ROSEN ET AL.
; TITLE OF INVENTION: Nucleic Acids, Proteins and Antibodies
; FILE REFERENCE: PA102
; CURRENT APPLICATION NUMBER: US/09/925,299
; CURRENT FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: PCT/US00/05883
; PRIOR FILING DATE: 2000-03-08
; PRIOR APPLICATION NUMBER: 60/124,270
; PRIOR FILING DATE: 1999-03-12
; NUMBER OF SEQ ID NOS: 1556
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO: 927
; LENGTH: 105
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-925-299-927

Query Match      89.5%; Score 77; DB 11; Length 105;
Best Local Similarity 100.0%; Pred. No. 2.4e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      2 EESNITWQIMRIKPH 16
      |||||
Db      56 EESNITWQIMRIKPH 70

RESULT 11
US-09-822-270-17
; Sequence 17, Application US/09822270
; Patent No. US20020068697A1
; GENERAL INFORMATION:
; APPLICANT: TOURNAIRE, ROSELYNE
; APPLICANT: DEMANGEL, CAROLINE
; APPLICANT: DERBIN, CLAUDE
; APPLICANT: PERRET, GERARD
; APPLICANT: MAZIE, JEAN-CLAUDE
; APPLICANT: PLOUET, JEAN
; APPLICANT: VASSAY, ROGER
; TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIA
; FILE REFERENCE: 205060US0
; CURRENT APPLICATION NUMBER: US/09/822,270
; CURRENT FILING DATE: 2001-04-02
; PRIOR APPLICATION NUMBER: US 60/193,396
; PRIOR FILING DATE: 2000-03-31
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO: 17
; LENGTH: 110
; TYPE: PRT
; ORGANISM: ARTIFICIAL SEQUENCE
; FEATURE: OTHER INFORMATION: SYNTHETIC PEPTIDE
US-09-822-270-17

Query Match      89.5%; Score 77; DB 9; Length 110;
Best Local Similarity 100.0%; Pred. No. 2.5e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Query Match      89.5%; Score 77; DB 12; Length 110;
Best Local Similarity 100.0%; Pred. No. 2.5e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      2 EESNITWQIMRIKPH 16
      |||||
Db      72 EESNITWQIMRIKPH 86

RESULT 12
US-10-342-371-17
; Sequence 17, Application US/10342371
; Publication No. US20030171289A1
; GENERAL INFORMATION:
; APPLICANT: TOURNAIRE, ROSELYNE
; APPLICANT: DEMANGEL, CAROLINE
; APPLICANT: DERBIN, CLAUDE
; APPLICANT: PERRET, GERARD
; APPLICANT: MAZIE, JEAN-CLAUDE
; APPLICANT: PLOUET, JEAN
; APPLICANT: VASSAY, ROGER
; TITLE OF INVENTION: PEPTIDES BLOCKING VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF)-MEDIA
; FILE REFERENCE: 205060US0
; CURRENT APPLICATION NUMBER: US/10/342,371
; CURRENT FILING DATE: 2003-01-15
; PRIOR APPLICATION NUMBER: US/09/822,270
; PRIOR FILING DATE: 2001-04-02
; PRIOR APPLICATION NUMBER: US 60/193,396
; PRIOR FILING DATE: 2000-03-31
; NUMBER OF SEQ ID NOS: 17
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO: 17
; LENGTH: 110
; TYPE: PRT
; ORGANISM: ARTIFICIAL SEQUENCE
; FEATURE: OTHER INFORMATION: SYNTHETIC PEPTIDE
US-10-342-371-17

Query Match      89.5%; Score 77; DB 13; Length 110;
Best Local Similarity 100.0%; Pred. No. 2.5e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy      2 EESNITWQIMRIKPH 16
      |||||
Db      72 EESNITWQIMRIKPH 86

RESULT 13
US-10-392-931-10
; Sequence 10, Application US/10392931
; Publication No. US20030194643A1
; GENERAL INFORMATION:
; APPLICANT: SCHREINER, GEORGE F.
; APPLICANT: JOHNSON, RICHARD J.
; APPLICANT: SCIOS, INC.
; TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
; FILE REFERENCE: SCIOS 002A
; CURRENT APPLICATION NUMBER: US/10/392,931
; CURRENT FILING DATE: 1999-09-09
; PRIOR APPLICATION NUMBER: 60/099694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 60/126406
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/126615
; PRIOR FILING DATE: 1999-03-27
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO: 10
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-392-931-10
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Query Match 89.5%; Score 77; DB 12; Length 110;
Best Local Similarity 100.0%; Pred. No. 2.5e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16
|||||
Db 72 EESNITWQIMRIKPH 86

RESULT 14

US-10-392-931-11
; Sequence 11, Application US/10392931
; Publication No. US20030194643A1
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; APPLICANT: Scios, Inc.
; APPLICANT: University of Washington
; TITLE OF INVENTION: TREATMENT OF MICROVASCULAR ANGIOPATHIES
; FILE REFERENCE: SCIOS.003A
; CURRENT APPLICATION NUMBER: US/10/392,931
; CURRENT FILING DATE: 1999-09-09
; PRIOR APPLICATION NUMBER: 60/099694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 60/126406
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/126615
; PRIOR FILING DATE: 1999-03-27
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-392-931-11

Query Match 89.5%; Score 77; DB 12; Length 110;
Best Local Similarity 100.0%; Pred. No. 2.5e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16
|||||
Db 72 EESNITWQIMRIKPH 86

RESULT 15

US-10-418-529-10
; Sequence 10, Application US/10418529
; Publication No. US20030220262A1
; GENERAL INFORMATION:
; APPLICANT: Schreiner, George F.
; APPLICANT: Johnson, Richard J.
; APPLICANT: Scios, Inc.
; APPLICANT: University of Washington
; TITLE OF INVENTION: TREATMENT OF ECLAMPSIA AND PREECLAMPSIA
; FILE REFERENCE: SCIOS.003C1
; CURRENT APPLICATION NUMBER: US/10/418,529
; CURRENT FILING DATE: 2003-04-16
; PRIOR APPLICATION NUMBER: 60/099694
; PRIOR FILING DATE: 1998-09-09
; PRIOR APPLICATION NUMBER: 60/126406
; PRIOR FILING DATE: 1999-03-26
; PRIOR APPLICATION NUMBER: 60/126615
; PRIOR FILING DATE: 1999-03-27
; PRIOR APPLICATION NUMBER: 09/392931
; PRIOR FILING DATE: 1999-09-09
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 110
; TYPE: PRT
; ORGANISM: Homo sapien
US-10-418-529-10

Query Match 89.5%; Score 77; DB 12; Length 110;
Best Local Similarity 100.0%; Pred. No. 2.5e-06;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16
|||||
Db 72 EESNITWQIMRIKPH 86

Search completed: January 30, 2004, 12:15:02
Job time : 15.9609 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:34:23 ; Search time 6.89331 Seconds
(without alignments)
223.249 Million cell updates/sec

Title: US-09-266-543-9
Perfect score: 86
Sequence: 1 CEESNITWQIRKPH 16

Scoring table: BLOSUM62
Gapop 10.0, Gapext 0.5

Searched: 283308 seqs, 96168682 residues

Total number of hits satisfying chosen parameters: 283308

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	77	89.5	232	A41551	vascular endotheli
2	72	83.7	190	B44881	vascular endotheli
3	72	83.7	214	A44881	vascular endotheli
4	71	82.6	120	A33787	vascular endotheli
5	71	82.6	146	S57956	ovine vascular end
6	71	82.6	190	S52130	vascular endotheli
7	71	82.6	190	B40080	vascular endotheli
8	71	82.6	190	A35987	glioma-derived vas
9	53	61.6	128	I51295	vascular endotheli
10	46	53.5	1011	T13669	neurotensin - fr
11	45	52.3	158	A56125	placental growth f
12	45	52.3	1788	T29043	hypothetical prote
13	43	50.0	450	T38465	probable dolichyl-
14	42	48.8	865	S69044	hypothetical prote
15	41	47.7	149	A41236	placental growth f
16	41	47.7	455	D97217	glycosyltransferas
17	40	46.5	140	E82509	hypothetical prote
18	40	46.5	598	S28712	heat shock protein
19	40	46.5	674	AD2142	hypothetical prote
20	40	46.5	787	S09411	DNA translocase sp
21	40	46.5	1265	T47626	structural mainten
22	39	45.3	316	D69692	riboflavin kinase
23	39	45.3	598	S34203	heat shock protein
24	39	45.3	674	T28274	ORF MSY13 probabl
25	39	45.3	5232	A45086	HC-toxin synthetas
26	38	44.2	233	A80625	conserved hypotet
27	38	44.2	253	C86325	T23W8.5 protein -
28	38	44.2	255	D69255	GDP-D-mannose dehy
29	38	44.2	261	AF1939	hypothetical prote

30	38	44.2	291	2	A69878	conserved hypotet
31	38	44.2	401	1	C71310	conserved hypotet
32	38	44.2	716	2	E90738	probable ATP-depen
33	38	44.2	716	2	G85588	probable ATP-depen
34	38	44.2	716	2	G54816	probable ATP-depen
35	38	44.2	863	2	A53034	gag polyprotein -
36	38	44.2	889	2	T33422	hypothetical prote
37	38	44.2	1170	2	I45914	integrin alpha 2 s
38	38	44.2	1780	2	T17272	hypothetical prote
39	38	44.2	3066	1	J01661	genome polypotein
40	38	44.2	3066	1	J01662	genome polypotein
41	37	43.0	109	2	B72213	conserved hypotet
42	37	43.0	155	1	M6WL43	E6 protein - human
43	37	43.0	171	2	H85661	hypothetical prote
44	37	43.0	171	2	G90801	hypothetical prote
45	37	43.0	342	2	B96813	hypothetical prote

ALIGNMENTS

RESULT 1
A41551
vascular endothelial growth factor 206 precursor - human
N:Alternate names: vascular permeability factor
N:Contains: vascular endothelial growth factor 121 (VEGF 121); VEGF 165; VEGF 189; VEGF
C:Species: Homo sapiens (man)
C:Date: 28-Aug-1992 #sequence revision 28-Aug-1992 #text change 05-Nov-1999
C:Accession: A41551; C41551; A40454; B40454; A40080; J01463; J01
R:Houck, K.A.; Ferrara, N.; Winer, J.; Cachianes, G.; Li, B.; Leung, D.W.
Mol. Endocrinol. 5, 1806-1814, 1991
A>Title: The vascular endothelial growth factor family: identification of a fourth molec
A:Reference number: A41551, MUID:92168017, PMID:1791831
A:Accession: A41551
A:Molecule type: mRNA
A:Residues: 1-232 <HOU1>
A:Cross-references: GB:S85192; NID:G246155; PID:G246156
A:Accession: C41551
A:Molecule type: mRNA
A:Residues: 1-140, 'N', 183-232 <HOU2>
A:Accession: B41551
A:Status: nucleic acid sequence not shown; not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-141, 227-232 <HOU>
R:Reicher, B.; Mitchell, R.; Hartman, T.; Silva, M.; Gospodarowicz, D.; Fiddes, J.C.; Ab
J. Biol. Chem. 266, 11947-11954, 1991
A>Title: The human gene for vascular endothelial growth factor. Multiple protein forms a
A:Reference number: A40454; MUID:91268072; PMID:1711045
A:Accession: A40454
A:Molecule type: DNA
A:Residues: 1-165, 183-232 <T11>
A:Residues: 1-165, 183-232 <T11>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB
A:Accession: B40454
A:Molecule type: DNA
A:Residues: 1-141, 227-232 <T13>
A:Residues: 1-141, 227-232 <T13>
A:Cross-references: GB:M63971; GB:M63972; GB:M63973; GB:M63974; GB:M63975; GB:M63978
R:Keck, P.J.; Hauser, S.D.; Krivi, G.; Sanzo, K.; Warren, T.; Feder, J.; Connolly, D.T.
Science 246, 1309-1312, 1989
A>Title: Vascular permeability factor, an endothelial cell mitogen related to PDGF.
A:Reference number: A40079; MUID:90069609; PMID:2479987
A:Accession: A40079
A:Status: not compared with conceptual translation
A:Molecule type: mRNA
A:Residues: 1-165, 183-232 <KEC>
A:Residues: 1-165, 183-232 <KEC>
A:Cross-references: GB:M27281; NID:G340300; PID:AAA36807.1; PID:G340301
R:Leung, D.W.; Cachianes, G.; Huang, W.J.; Goeddel, D.V.; Ferrara, N.
Science 246, 1306-1309, 1989
A>Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.

A:Reference number: A40080; MUID:90069608; PMID:2479986
 A:Accession: A40080
 A:Status: not compared with conceptual translation
 Growth Factors 4, 53-59, 1990
 A:Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial g
 A:Reference number: A61029; MUID:91197543; PMID:2085441
 A:Accession: A61029
 A:Molecule type: protein
 A:Residues: 27-38 <ROS>
 A:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mit

A:Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBI:110675)
 R:Rosenthal, R.A.; Meyers, J.F.; Hensel, W.J.; Ferrara, N.; Folkman, J.
 C:Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 08-Oct-1999
 C:Accession: A4481; C4481; A60932; S52136
 R:Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
 Development 114, 521-532, 1992
 A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
 A:Reference number: A4481; MUID:92274860; PMID:1592003
 A:Accession: A4481
 A:Molecule type: mRNA
 A:Residues: 1-140, 'N', 183-232 <MEI>
 A:Cross-references: EMBL:X62568; NID:G37658; PIDN:CAA44447.1; PID:G37659
 A:Experimental source: AIDS-Kaposi's sarcoma cell
 A:Accession: J01463
 A:Molecule type: mRNA
 A:Residues: 1-140, 'N', 227-232 <ME2>
 A:Experimental source: AIDS-Kaposi's sarcoma cell
 R:Connolly, D.T.; Olander, J.V.; Heuvelman, D.; Nelson, R.; Monsell, R.; Siegel, N.; Hay
 J. Biol. Chem. 264, 20017-20024, 1989
 A:Title: Human vascular permeability factor. Isolation from U937 cells.
 A:Reference number: A34492; MUID:90062112; PMID:2584205
 A:Accession: A34492
 A:Molecule type: protein
 A:Residues: 27-36/43-49, 'R', '72-76', 'Q', '78-81', 59-71 <CON>
 A:Comment: The most common of several alternatively spliced forms is VEGF 165.
 C:Genetics:
 A:Gene: GDB:VEGF
 A:Cross-references: GDB:132244; OMIM:192240
 A:Map position: 6p21-6p12
 C:Function:
 A:Description: Promotes fluid and protein leakage from blood vessels
 A:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; extracellular pro
 F:1-232/Product: vascular endothelial growth factor 206 precursor #status predicted <Y20
 F:1-165, 183-232/Product: vascular endothelial growth factor 169 precursor #status predic
 F:1-141, 227-232/Product: vascular endothelial growth factor 121 precursor #status predic
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:101/Binding site: carbohydrate (Aen) (covalent) #status predicted

Query Match 89.5%; Score 77; DB 2; Length 232;
 Best Local Similarity 100.0%; Pred. No. 1.8e-06;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 2 ESNITMOIRIKPH 16
 |||||
 Db 98 ESNITMOIRIKPH 112

RESULT 2
 B4481
 vascular endothelial growth factor-1 precursor - mouse
 C:Species: Mus musculus (house mouse)
 C:Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 05-Nov-1999
 C:Accession: B4481; A4351; A61029
 R:Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
 Development 114, 521-532, 1992
 A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
 A:Reference number: A4481; MUID:92274860; PMID:1592003
 A:Accession: B4481
 A:Molecule type: mRNA
 A:Residues: 1-190 <BRE>
 A:Cross-references: GB:S38083; NID:G249858; PIDN:AA82253.1; PID:G249859
 A:Experimental source: embryo
 A:Note: sequence extracted from NCBI backbone (NCBIN:107622, NCBI:107623)
 R:Clafey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
 J. Biol. Chem. 267, 16317-16322, 1992
 A:Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti
 A:Reference number: A43351; MUID:92255593; PMID:1644816
 A:Accession: A43351
 A:Molecule type: mRNA
 A:Residues: 1-116, 'ER', 119-190 <CLA>
 A:Cross-references: GB:M95200; NID:G202350; PIDN:AAA40547.1; PID:G202351

A:Note: sequence extracted from NCBI backbone (NCBIN:110665, NCBI:110675)
 R:Rosenthal, R.A.; Meyers, J.F.; Hensel, W.J.; Ferrara, N.; Folkman, J.
 Growth Factors 4, 53-59, 1990
 A:Title: Conditioned medium from mouse sarcoma 180 cells contains vascular endothelial g
 A:Reference number: A61029; MUID:91197543; PMID:2085441
 A:Accession: A61029
 A:Molecule type: protein
 A:Residues: 27-38 <ROS>
 A:Keywords: alternative splicing; angiogenesis; dimer; disulfide bond; glycoprotein; mit

Query Match 83.7%; Score 72; DB 2; Length 190;
 Best Local Similarity 100.0%; Pred. No. 1.2e-05;
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 3 ESNITMOIRIKPH 16
 |||||
 Db 98 ESNITMOIRIKPH 111

RESULT 3
 A4481
 vascular endothelial growth factor-3 precursor - mouse
 N:Contains: vascular endothelial growth factor-2; vascular permeability factor
 C:Species: Mus musculus (house mouse)
 C:Date: 03-Feb-1994 #sequence revision 03-Feb-1994 #text_change 08-Oct-1999
 C:Accession: A4481; C4481; A60932; S52136
 R:Breier, G.; Albrecht, U.; Sterrer, S.; Risau, W.
 Development 114, 521-532, 1992
 A:Title: Expression of vascular endothelial growth factor during embryonic angiogenesis
 A:Reference number: A4481; MUID:92274860; PMID:1592003
 A:Accession: A4481
 A:Molecule type: mRNA
 A:Residues: 1-214 <BRE>
 A:Cross-references: GB:S37052; NID:G249856; PIDN:AA82252.1; PID:G249857
 A:Experimental source: embryo
 A:Note: sequence extracted from NCBI backbone (NCBIN:104677, NCBI:104678)
 A:Accession: C4481
 A:Molecule type: mRNA
 A:Residues: 1-140, 209-214 <BR2>
 A:Cross-references: GB:S38100; NID:G249860; PIDN:AA82254.1; PID:G249861
 A:Note: sequence extracted from NCBI backbone (NCBIN:107624, NCBI:107625)
 R:Clafey, K.P.; Wilkison, W.O.; Spiegelman, B.M.
 J. Biol. Chem. 267, 16317-16322, 1992
 A:Title: Vascular endothelial growth factor. Regulation by cell differentiation and acti
 A:Reference number: A60932; MUID:91079755; PMID:2258694
 A:Accession: A60932
 A:Molecule type: protein
 A:Residues: 27-33 <CLA>
 R:Sugihara, T.; Kaul, S.C.; Mitsu, Y.; Wadhwa, R.
 Biochim. Biophys. Acta 1224, 365-370, 1994
 A:Title: Enhanced expression of multiple forms of VEGF is associated with spontaneous im
 A:Reference number: S52136; MUID:95101726; PMID:7803491
 A:Accession: S52136
 A:Molecule type: preliminary
 A:Status: preliminary
 A:Molecule type: protein
 A:Residues: 27-46 <SUG>
 A:Comment: Homodimers could be demonstrated for recombinant VEGF-2 but not VEGF-3.
 C:Keywords: alternative splicing; angiogenesis; disulfide bond; glycoprotein; homodimer;
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:27-214/Product: vascular endothelial growth factor-3 #status experimental <MAT>

Query Match 83.7%; Score 72; DB 2; Length 214;
 Best Local Similarity 100.0%; Pred. No. 1.4e-05;
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 3 ESNITMOIRIKPH 16
 |||||
 Db 98 ESNITMOIRIKPH 111

RESULT 4
 A33787
 vascular endothelial growth factor (version 1) - bovine

C:Species: Bos primigenius taurus (cattle)
 C:Date: 16-Mar-1990 #sequence_revision 16-Mar-1990 #text_change 05-Nov-1999
 C:Accession: A33787
 R:Title: B. Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
 Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
 A:Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
 A:Reference number: A33787; MUID:90121225; PMID:2610687
 A:Accession: A33787
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-120 <TIS>
 A:Cross-references: GB:M33750; NID:G163810; PIDN:AAA30805.1; PID:G163811
 C:Keywords: alternative splicing

Query Match 82.6%; Score 71; DB 2; Length 120;
 Best Local Similarity 93.3%; Pred. No. 1.2e-05;
 Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 2 EESNITMOIMRIKPH 16
 |||
 DB 71 EEFNITMOIMRIKPH 85

RESULT 5
 S57956
 ovine vascular endothelial growth factor - sheep
 C:Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
 C:Date: 13-Jan-1996 #sequence_revision 01-Mar-1996 #text_change 05-Nov-1999
 C:Accession: S57956
 R:Reimer, D.A.; Dai, Y.; Li, J.; Jones, S.C.; Moor, R.M.
 submitted to the EMBL Data Library, July 1995
 A:Reference number: S57956
 A:Accession: S57956
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-146 <RED>
 A:Cross-references: EMBL:X89506; NID:G899350; PIDN:CAA61677.1; PID:G899351

Query Match 82.6%; Score 71; DB 2; Length 146;
 Best Local Similarity 93.3%; Pred. No. 1.4e-05;
 Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 2 EESNITMOIMRIKPH 16
 |||
 DB 97 EEFNITMOIMRIKPH 111

RESULT 6
 S52130
 vascular endothelial growth factor - pig
 C:Species: Sus scrofa domestica (domestic pig)
 C:Date: 14-Jul-1995 #sequence_revision 21-Jul-1995 #text_change 05-Nov-1999
 C:Accession: S52130
 R:Sharma, H.S.; Tang, Z.H.; Gho, B.C.G.; Verdouw, P.D.
 Biochim. Biophys. Acta 1260, 235-238, 1995
 A:Title: Nucleotide sequence and expression of the porcine vascular endothelial growth f
 A:Reference number: S52130; MUID:95143284; PMID:7841203
 A:Accession: S52130
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-190 <SHA>
 A:Cross-references: GB:X81380; NID:G587559; PIDN:CAA57143.1; PID:G587560

Query Match 82.6%; Score 71; DB 2; Length 190;
 Best Local Similarity 93.3%; Pred. No. 1.9e-05;
 Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 2 EESNITMOIMRIKPH 16
 |||
 DB 97 EEFNITMOIMRIKPH 111

RESULT 7

B40080
 vascular endothelial growth factor precursor (version 2) - bovine
 C:Species: Bos primigenius taurus (cattle)
 C:Date: 30-Jun-1992 #sequence_revision 30-Jun-1992 #text_change 05-Nov-1999
 C:Accession: B40080; B33787; A33255
 R:Leung, D.W.; Cachianes, G.; Kuang, W.J.; Goeddel, D.V.; Ferrara, N.
 Science 246, 1306-1309, 1989
 A:Title: Vascular endothelial growth factor is a secreted angiogenic mitogen.
 A:Reference number: A40080; MUID:90069608; PMID:2479986
 A:Accession: B40080
 A:Molecule type: mRNA
 A:Residues: 1-190 <LEU>
 A:Cross-references: GB:M32976; NID:G163006; PIDN:AAA30502.1; PID:G163007
 R:Title: B. Gospodarowicz, D.; Mitchell, R.; Silva, M.; Schilling, J.; Lau, K.; Crisp
 Biochem. Biophys. Res. Commun. 165, 1198-1206, 1989
 A:Title: Vascular endothelial growth factor: a new member of the platelet-derived growth
 A:Reference number: A33787; MUID:90121225; PMID:2610687
 A:Accession: B33787
 A:Molecule type: mRNA
 A:Residues: 27-190 <TIS>
 A:Cross-references: GB:M31836; NID:G163808; PIDN:AAA30804.1; PID:G163809
 R:Ferrara, N.; Henzel, W.J.
 Biochem. Biophys. Res. Commun. 161, 851-858, 1989
 A:Title: Plutitary follicular cells secrete a novel heparin-binding growth factor specif
 A:Reference number: A33255; MUID:89286596; PMID:2735925
 A:Accession: A33255
 A:Molecule type: protein
 A:Residues: 27-31 <PER>
 C:Keywords: alternative splicing; glycoprotein
 F:1-26/Domain: signal sequence #status predicted <SIG>
 F:127-190/Product: vascular endothelial growth factor #status predicted <MAT>
 F:100/Binding site: carbohydrate (asn) (covalent) #status predicted

Query Match 82.6%; Score 71; DB 2; Length 190;
 Best Local Similarity 93.3%; Pred. No. 1.9e-05;
 Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 2 EESNITMOIMRIKPH 16
 |||
 DB 97 EEFNITMOIMRIKPH 111

RESULT 8
 A35987
 glioma-derived vascular endothelial cell growth factor - rat
 C:Species: Rattus norvegicus (Norway rat)
 C:Date: 16-Nov-1990 #sequence_revision 16-Nov-1990 #text_change 05-Nov-1999
 C:Accession: A35987
 R:Conn, G.; Bayne, M.L.; Soderman, D.D.; Kwok, P.W.; Sullivan, K.A.; Palisi, T.M.; Hope,
 Proc. Natl. Acad. Sci. U.S.A. 87, 2628-2632, 1990
 A:Title: Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is ho
 A:Reference number: A35987; MUID:90207249; PMID:2320579
 A:Accession: A35987
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-190 <CON>
 A:Cross-references: GB:M32167; NID:G204287; PIDN:AAA41211.1; PID:G204288

Query Match 82.6%; Score 71; DB 2; Length 190;
 Best Local Similarity 92.9%; Pred. No. 1.9e-05;
 Matches 13; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 3 EESNITMOIMRIKPH 16
 |||
 DB 98 EEFNITMOIMRIKPH 111

RESULT 9
 I51295
 vascular endothelial growth factor - quail (fragment)
 C:Species: Phasianidae gen. sp. (quail)
 C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 28-Feb-1997
 C:Accession: I51295

R:Flamme, I.; Breier, G.; Ritsau, W.
 Dev. Biol. 169, 699-712, 1995
 A:Title: Vascular endothelial growth factor (VEGF) and VEGF receptor 2 (Flk-1) are expressed in human placental endothelial cells
 A:Reference number: 151295; MUID:95501109; PMID:7781909
 A:Accession: 151295
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-128 <FLA>
 A:Cross-references: GB:S78343; NID:G999147; PID:G999148
 C:Genetics:
 A:Gene: VEGF

Query Match 61.6%; Score 53; DB 2; Length 128;
 Best Local Similarity 75.0%; Pred. No. 0.026;
 Matches 9; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Oy: 5 NITWQIMRIKPH 16
 :|||:|||||
 Db 42 NVTMEIARIKPH 53

RESULT 10

T13669
 neuromusculin - fruit fly (Drosophila melanogaster)
 C:Species: Drosophila melanogaster
 C:Date: 13-Aug-1999 #sequence_revision 13-Aug-1999 #text_change 17-Nov-2000
 C:Accession: T13669
 R:Kania, A.; Han, P.L.; Kim, Y.T.; Bellen, H.
 Neuron 11, 673-687, 1993
 A:Title: Neuromusculin, a Drosophila gene expressed in peripheral neuronal precursors at the neuromuscular junction
 A:Reference number: 217697; MUID:94000831; PMID:8398154
 A:Accession: T13669
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: mRNA
 A:Residues: 1-1011 <KAN>
 A:Cross-references: EMBL:L23146; NID:G385073; PID:G385074; PIDN:AAA03750.1
 C:Genetics:
 A:Gene: nrm
 A:Cross-references: FlyBase:FBgn0005629

Query Match 53.5%; Score 46; DB 2; Length 1011;
 Best Local Similarity 60.0%; Pred. No. 4.5;
 Matches 9; Conservative 1; Mismatches 5; Indels 0; Gaps 0;

Oy: 1 CEESNITWQIMRIKPH 15
 :|||:|||||
 Db 347 CEANIVLQINKEP 361

RESULT 11

A56125
 placental growth factor precursor - rat
 C:Species: Rattus norvegicus (Norway rat)
 C:Date: 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change 05-Nov-1999
 C:Accession: A56125
 R:Disalvo, J.; Bayne, M.L.; Conn, G.; Kwok, P.W.; Tivedi, P.G.; Soderman, D.D.; Palisi, J. Biol. Chem. 270, 7717-7723, 1995
 A:Title: Purification and characterization of a naturally occurring vascular endothelial A:Reference number: A56125; MUID:9522139; PMID:7706320
 A:Accession: A56125
 A:Status: preliminary; not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 1-158 <DIS>
 A:Cross-references: GB:L40030; NID:G1263413; PIDN:AAA97426.1; PID:G1263414
 C:Keywords: glycoprotein

Query Match 52.3%; Score 45; DB 2; Length 158;
 Best Local Similarity 61.5%; Pred. No. 0.99;
 Matches 8; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Oy: 4 SNITWQIMRIKPH 16
 :|||:|||||
 Db 96 ANITWQIMRIKPH 108

RESULT 12

T29043
 hypothetical protein B0228.2 - Caenorhabditis elegans
 C:Species: Caenorhabditis elegans
 C:Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 15-Oct-1999
 C:Accession: T29043
 R:Leimbach, D.
 submitted to the EMBL Data Library, March 1995
 A:Description: The sequence of C. elegans cosmid B0228.
 A:Reference number: 218324
 A:Accession: T29043
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-1788 <LEI>
 A:Cross-references: EMBL:U23168; PIDN:ACC38806.1; CESP:B0228.2
 A:Experimental source: strain Bristol N2
 C:Genetics:
 A:Gene: CESP:B0228.2
 A:Introns: 1456/2; 1482/3; 1516/2; 1551/3; 1595/3; 1646/1; 1671/1; 1716/2; 1749/3

Query Match 52.3%; Score 45; DB 2; Length 1788;
 Best Local Similarity 50.0%; Pred. No. 13;
 Matches 8; Conservative 3; Mismatches 5; Indels 0; Gaps 0;

Oy: 1 CEESNITWQIMRIKPH 16
 :|||:|||||
 Db 1067 CEETSTIKVANKIEPH 1082

RESULT 13

T38465
 probable dolichyl-diphosphooligosaccharide-protein glycotransferase (EC 2.4.1.119) alpha.
 C:Species: Schizosaccharomyces pombe
 C:Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 03-Jun-2002
 C:Accession: T38465
 R:Harries, D.; McDonald, S.; Barrett, B.G.; Rajandream, M.A.; Walsh, S.V.
 submitted to the EMBL Data Library, February 1996
 A:Reference number: 221794
 A:Accession: T38465
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: DNA
 A:Residues: 1-450 <HAR>
 A:Cross-references: EMBL:Z69368; PIDN:CAA93296.1; GSPDB:GN00066; SPDB:SPAC27F1.07
 A:Experimental source: strain 972h-; cosmid c27f1
 C:Genetics:
 A:Gene: SPDB:SPAC27F1.07
 A:Map position: 1
 C:Keywords: glycosyltransferase; hexosyltransferase

Query Match 50.0%; Score 43; DB 2; Length 450;
 Best Local Similarity 53.3%; Pred. No. 7;
 Matches 8; Conservative 2; Mismatches 5; Indels 0; Gaps 0;

Oy: 2 EESNITWQIMRIKPH 16
 :|||:|||||
 Db 287 EVGNITTSNKKVEPH 301

RESULT 14

S69044
 hypothetical protein YPL14C - yeast (Saccharomyces cerevisiae)
 N:Alternate names: hypothetical protein LPI5
 C:Species: Saccharomyces cerevisiae
 C:Date: 22-Aug-1996 #sequence_revision 06-Sep-1996 #text_change 19-Apr-2002
 C:Accession: S69044
 R:Hall, J.; DePaulo, T.; Ahmed, A.; Bussey, H.; Fortin, N.; Friesen, J.D.; Storms, R.K.; submitted to the EMBL Data Library, December 1995
 A:Description: The sequence of Saccharomyces cerevisiae chromosome XVI left arm.
 A:Reference number: S69040
 A:Accession: S69044
 A:Molecule type: DNA

A:Residues: 1-865 <HAL>
 A:Cross-references: EMBL:U43703; NID:g1244769; PIDN:AAB68219.1; PID:g1244774; MIPS:YPL14
 C:Genetics:
 A:Cross-references: SGD:S0006062
 A:Map position: 16L
 A>Note: YPL141c
 C:Superfamily: unassigned Ser/Thr or Tyr-specific protein kinases; protein kinase homolog
 C:Keywords: ATP
 F:39-313/Domain: protein kinase ATP-binding motif
 F:47-55/Region: protein kinase ATP-binding motif

Query Match 48.8%; Score 42; DB 2; Length 865;
 Best Local Similarity 53.3%; Pred. No. 21;
 Matches 8; Conservative 4; Mismatches 3; Indels 0; Gaps 0;

QY 2 EESNTMQIMRIKPH 16
 |||:|:|:|:
 Db 491 EESSTMQTSKIQPN 505

RESULT 15

A41236
 placental growth factor precursor - human
 C:Species: Homo sapiens (man)
 C:Date: 19-Jun-1992 #sequence_revision 19-Jun-1992 #text_change 05-Nov-1999
 C:Accession: A41236
 R:Maglione, D.; Guerriero, V.; Vagliente, G.; Delli-Bovi, P.; Persico, M.G.
 Proc. Natl. Acad. Sci. U.S.A. 88, 9267-9271, 1991
 A:Title: Isolation of a human placenta cDNA coding for a protein related to the vascular
 A:Reference number: A41236; MUID:92021031; PMID:1924389
 A:Accession: A41236
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-149 <MAG>
 A:Cross-references: GB:X54936; NID:g35521; PIDN:CAA38698.1; PID:g35522
 C:Genetics:
 A:Gene: GDB:PGF
 A:Cross-references: GDB:134676; OMIM:601121
 A:Map position: 14q24-14q31

Query Match 47.7%; Score 41; DB 2; Length 149;
 Best Local Similarity 46.2%; Pred. No. 5.1;
 Matches 6; Conservative 6; Mismatches 1; Indels 0; Gaps 0;

QY 2 EESNTMQIMRIKPH 14
 |:|:|:|:|:
 Db 98 ETANVTMQLKLR 110

Search completed: January 30, 2004, 11:46:18
 Job time : 7.89231 secs

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OM protein - protein search, using sw model

Run on: January 30, 2004, 11:27:48 ; Search time 3.69231 Seconds

(without alignments)
203.782 Million cell updates/sec

Title: US-09-266-543-9

Perfect score: 86

Sequence: 1 CEESNITQWIRKPH 16

Scoring table: BIOSUM62

Gapop 10.0 , Gapext 0.5

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : SwissProt_41:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	77	89.5	232	1 VEGA_HUMAN	P16692 homo sapien
2	72	83.7	214	1 VEGA_MOUSE	Q00731 mus musculu
3	71	82.6	146	1 VEGA_SHEEP	P56412 oviss aries
4	71	82.6	164	1 VEGA_CAVPO	P26617 cavia porce
5	71	82.6	190	1 VEGA_BOVIN	P16691 bos taurus
6	71	82.6	190	1 VEGA_MESAU	Q95P81 mesocricetu
7	71	82.6	190	1 VEGA_PIG	Q94151 sus scrofa
8	71	82.6	214	1 VEGA_CANFA	P16612 rattus norv
9	71	82.6	214	1 VEGA_RAT	Q96K80 equus cabal
10	66	76.7	190	1 VEGA_HORSE	P55582 gallus gall
11	53	61.6	216	1 VEGA_CHICK	P43764 mus musculu
12	45	52.3	158	1 PLGF_MOUSE	Q63434 rattus norv
13	45	52.3	158	1 PLGF_RAT	Q94422 homo sapien
14	44	51.2	1324	1 IRS2_HUMAN	Q10176 schizosacch
15	43	50.0	450	1 OSTA_SCHPO	P49763 homo sapien
16	41	47.7	221	1 PLGF_HUMAN	P37092 sugar beec
17	40	46.5	598	1 H87L_SBYV	P21458 bacillus su
18	40	46.5	787	1 SP3E_BACSU	P56420 buchnera ap
19	40	46.5	880	1 SYA_BUCBP	Q96447 bos taurus
20	39	45.3	149	1 PLGF_BOVIN	P54575 bacillus su
21	39	45.3	316	1 RIBC_BACSU	Q95YX9 melanoplus
22	39	45.3	674	1 EFP1_MSEPV	Q05111 mus musculu
23	39	45.3	1122	1 DSG2_MOUSE	Q01886 cochliobolu
24	39	45.3	5217	1 HTS1_COCCA	P53768 kluyveromyc
25	38	44.2	300	1 HAP2_XLUPA	O85570 treporema p
26	38	44.2	401	1 TH11_TREPA	P21296 escherichia
27	38	44.2	716	1 DING_ECOLI	P53710 bos taurus
28	38	44.2	1170	1 ITA2_BOVIN	Q90069 s genome po
29	38	44.2	3066	1 POLG_SBMWG	P21231 s genome po
30	38	44.2	3066	1 POLG_SBMVN	P19709 human papil
31	37	43.0	155	1 VEG_HPV43	Q03564 caenorhabdi
32	37	43.0	609	1 YKD6_CAEEL	O15943 drosophila
33	37	43.0	3097	1 CADN_DROME	

34	36.5	42.4	235	1	PYRH_UREBA	Q9PPX6 ureaplasma
35	36	41.9	149	1	Y919_MERTJA	Q56329 methanococc
36	36	41.9	246	1	Y919_SYNY3	Q55185 synechocyst
37	36	41.9	303	1	BYST_MOUSE	O54825 mus musculu
38	36	41.9	359	1	MTD_MEDSA	O82515 medicago sa
39	36	41.9	401	1	ASSY_XYLEFA	Q9P6M9 xyella fas
40	36	41.9	401	1	ASSY_XYLEFT	P59606 xyella fas
41	36	41.9	699	1	GALX_YEAST	P04397 saccharomyc
42	36	41.9	838	1	YKXA_CAEEL	P34261 caenorhabdi
43	36	41.9	968	1	Y682_MERTJA	O56895 methanococc
44	36	41.9	1038	1	BGAL_ALTRA	P81650 alteromonas
45	36	41.9	1126	1	V125_AMYLE	P03589 altaila mos

ALIGNMENTS

RESULT 1
ID VEGA_HUMAN STANDARD; PRT; 232 AA.
AC P16692; O60720; O75875; Q16889; Q96NM5; Q9H1W8; Q9H1W9; Q9UH58;
OX NCBI_Taxid=9606;
GN VEGF OR VEGFA.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OC NCBI_Taxid=9606;
RN [1]
RP MEDLINE=90069608; PubMed=2479986;
RX Leung D.W., Cachianes G., Kuang W.-J., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic
mitogen.";
RL Science 246:1306-1309(1989).
RN [2]
RP MEDLINE=91268072; PubMed=1711045;
RX Keck P.J., Hauser S.D., Krivl G., Sanzo K., Warren T., Feder J.,
RA Connolly D.T.;
RT "Vascular permeability factor, an endothelial cell mitogen related to
PDGF.";
RL Science 246:1309-1312(1989).
RN [3]
RP MEDLINE=91268072; PubMed=1711045;
RX Tischer E., Mitchell R., Hartman T., Silva M., Gospodarowicz D.,
RA Fiddes J.C., Abraham J.A.;
RT "The human gene for vascular endothelial growth factor. Multiple
protein forms are encoded through alternative exon splicing.";
RL J. Biol. Chem. 266:11947-11954(1991).
RN [4]
RP MEDLINE=92168017; PubMed=1791831;
RX Houck K.A., Ferrara N., Winer J., Cachianes G., Li B., Leung D.W.;
RT "The vascular endothelial growth factor family: identification of a
fourth molecular species and characterization of alternative splicing
of RNA.";
RL Mol. Endocrinol. 5:1806-1814(1991).
RN [5]
RP MEDLINE=92231879; PubMed=1567395;
RX Weindel K., Marne D., Welch H.A.;
RA "AIDS-associated Kaposi's sarcoma cells in culture express vascular
endothelial growth factor.";
RL Biochem. Biophys. Res. Commun. 183:1167-1174(1992).
RN [6]
RP MEDLINE=97207275; PubMed=9054410;
RX

RA Poltorak Z., Cohen T., Sivan R., Kandellis Y., Spira G., Vlodavsky I.,
 RA Keshet E., Neufeld G.;
 RT "VEGF145, a secreted vascular endothelial growth factor isoform that
 RT binds to extracellular matrix.";
 RT J. Biol. Chem. 272:7151-7158 (1997).
 RN (7)
 RP SEQUENCE FROM N.A. (ISOFORM VEGF183).
 RC TISSUE=Kidney;
 RX MEDLINE=99096474; PubMed=9878851;
 RA Lei J., Jiang A., Pei D.;
 RT "Identification and characterization of a new splicing variant of
 RT vascular endothelial growth factor: VEGF183.";
 RL Biochim. Biophys. Acta 1443:400-406 (1998).
 RN (8)
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RC TISSUE=Breast;
 RX MEDLINE=99119755; PubMed=9450968;
 RA Claffey K.P., Shih S.-C., Mullen A., Dziennis S., Cusick J.L.,
 RA Abrams K.R., Lee S.W., Detmar M.;
 RT "Identification of a human VPF/VEGF 3' untranslated region mediating
 RT hypoxia-induced mRNA stability.";
 RL Mol. Biol. Cell 9:469-481 (1998).
 RN (9)
 RP SEQUENCE OF 114-209 FROM N.A. (ISOFORM VEGF183).
 RC TISSUE=Retina;
 RX MEDLINE=99165303; PubMed=10067980;
 RA Jia J., Xue Y., Agnew N., Roque R.S.;
 RT "Human Muller cells express VEGF183, a novel spliced variant of
 RT vascular endothelial growth factor.";
 RL Invest. Ophthalmol. Vis. Sci. 40:752-759 (1999).
 RN (10)
 RP SEQUENCE FROM N.A. (ISOFORM VEGF165).
 RC TISSUE=Hemangioma;
 RX MEDLINE=99165303; PubMed=10067980;
 RA Murata H., Fukushima J., Hattori S., Okuda K., Yanagi H.;
 RT "Human CDNA for the vascular endothelial growth factor isoform
 RT VEGF165.";
 RL Submitted (DEC-1998) to the EMBL/Genbank/DBJ databases.
 RN (11)
 RP SEQUENCE FROM N.A. (ISOFORM VEGF148).
 RC TISSUE=Renal glomerulus;
 RX MEDLINE=99394945; PubMed=10464055;
 RA Whittle C.J., Gillespie K.M., Harrison R., Mathieson P.W.,
 RA Harper S.J.;
 RT "Heterogeneous vascular endothelial growth factor (VEGF) isoform mRNA
 RT and receptor mRNA expression in human glomeruli, and the
 RT identification of VEGF148 mRNA, a novel truncated splice variant.";
 RL Clin. Sci. 97:303-312 (1999).
 RN (12)
 RP SEQUENCE FROM N.A. (ISOFORM VEGF121).
 RA Sato J.D., Whitney R.G.;
 RT "Human CDNA for vascular endothelial growth factor isoform VEGF121.";
 RL Submitted (DEC-1999) to the EMBL/Genbank/DBJ databases.
 RN (13)
 RP SEQUENCE FROM N.A.
 RA Williams S.;
 RT Submitted (DEC-2000) to the EMBL/Genbank/DBJ databases.
 RN (14)
 RP SEQUENCE OF 23-232 FROM N.A. (VEGF165).
 RA Riederer M.J., Armet T.Z., Carrington D.P., Chung M.-W., Lee K.L.,
 RA Poel C.L., Toch E.J., Yi Q., Nickerson D.A.;
 RT Submitted (OCT-2001) to the EMBL/Genbank/DBJ databases.
 RN (15)
 RP PRELIMINARY SEQUENCE OF 27-36; 43-50 AND 59-81.
 RX MEDLINE=90062112; PubMed=2584205;
 RA Connolly D.T., Olander J.V., Heuvelman D., Nelson R., Monseil R.,
 RA Siegel N., Haymore B.L., Leimgruber R., Feder J.;
 RT "Human vascular permeability factor. Isolation from U937 cells.";
 RL J. Biol. Chem. 264:20017-20024 (1989).
 RN (16)
 RP SEQUENCE OF 27-41.
 RX MEDLINE=93145946; PubMed=7678805;
 RA Piebich B.L., Jaeger B., Schoellmann C., Weindel K., Wilting J.,
 RA Koehn G., Marne D., Hug H., Weich H.A.;

RT "Synthesis and assembly of functionally active human vascular
 RT endothelial growth factor homodimers in insect cells.";
 RL Eur. J. Biochem. 211:19-26 (1993).
 RN (17)
 RP X-RAY CRYSTALLOGRAPHY (2.5 ANGSTROMS) OF 34-135.
 RX MEDLINE=97352774; PubMed=9207067;
 RA Muller Y.A., Li B., Christinger H.W., Welle J.A., Cunningham B.C.,
 RA de Vos A.M.;
 RT "Vascular endothelial growth factor: crystal structure and functional
 RT mapping of the kinase domain receptor binding site.";
 RL Proc. Natl. Acad. Sci. U.S.A. 94:7192-7197 (1997).
 RN (18)
 RP X-RAY CRYSTALLOGRAPHY (1.93 ANGSTROMS) OF 34-135.
 RX MEDLINE=98035455; PubMed=9351807;
 RA Muller Y.A., Christinger H.W., Keyt B.A., de Vos A.M.;
 RT "The crystal structure of vascular endothelial growth factor (VEGF)
 RT refined to 1.93-A resolution: multiple copy flexibility and receptor
 RT binding.";
 RL Structure 5:1325-1338 (1997).
 RN (19)
 RP X-RAY CRYSTALLOGRAPHY (1.9 ANGSTROMS) OF 39-134.
 RX MEDLINE=99119204; PubMed=9922142;
 RA Wiesmann C., Christinger H.W., Cochran A.G., Cunningham B.C.,
 RA Fairbrother W.J., Keenan C.J., Meng G., de Vos A.M.;
 RT "Crystal structure of the complex between VEGF and a receptor-blocking
 RT peptide.";
 RL Biochemistry 37:17765-17772 (1998).
 RN (20)
 RP STRUCTURE BY NMR OF 137-215.
 RX MEDLINE=9747915; PubMed=9336848;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.;
 RT "1H, 13C, and 15N backbone assignment and secondary structure of the
 RT receptor-binding domain of vascular endothelial growth factor.";
 RL Protein Sci. 6:2250-2260 (1997).
 RN (21)
 RP STRUCTURE BY NMR OF 137-215.
 RX MEDLINE=98298440; PubMed=9634701;
 RA Fairbrother W.J., Champe M.A., Christinger H.W., Keyt B.A.,
 RA Starovasnik M.A.;
 RT "Solution structure of the heparin-binding domain of vascular
 RT endothelial growth factor.";
 RL Structure 6:637-648 (1998).
 RN (22)
 RP FUNCTION.
 RX MEDLINE=21320570; PubMed=11427521;
 RA Murphy J.F., Fitzgerald D.J.;
 RT "Vascular endothelial growth factor induces cyclooxygenase-dependent
 RT proliferation of endothelial cells via the VEGF-2 receptor.";
 RL FASEB J. 15:1667-1669 (2001).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
 CC endothelial cell growth. It induces endothelial cell
 CC proliferation, promotes cell migration, inhibits apoptosis, and
 CC induces permeabilization of blood vessels. It binds to the
 CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
 CC heparin. Neuropilin-1 binds isoforms VEGF-165 and VEGF-145.
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
 CC with PlGF (by similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF121 is acidic and freely secreted.
 CC VEGF165 is more basic, has heparin-binding properties and,
 CC although a significant proportion remains cell-associated, most is
 CC freely secreted. VEGF189 is very basic; it is cell-associated
 CC after secretion and is bound avidly by heparin and the
 CC extracellular matrix, although it may be released as a soluble
 CC form by heparin, heparinase or plasmin.
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event-Alternative splicing; Named isoforms=7;
 CC Comment=Experimental confirmation may be lacking for some
 CC isoforms;
 CC Name=VEGF206;
 CC IsoId=P15692-1; Sequence=Displayed;
 CC Name=VEGF189;
 CC IsoId=P15692-2; Sequence=VSP_004622;

Query Match 89.5%; Score 77; DB 1; Length 232;
 Best Local Similarity 100.0%; Pred. No. 3.6e-07;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 ESNITMOIMRIKPH 16
 |||||
 Db 98 ESNITMOIMRIKPH 112

RESULT 2
 ID VEGA_MOUSE STANDARD; PRT: 214 AA.

AC 000731;
 DT 01-APR-1993 (Rel. 25, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 15-SEP-2003 (Rel. 42, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 DE VEGF OR VEGFA.
 GN Mus musculus (Mouse).
 OS Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OC NCBI_TaxID=10090;
 OX [1]
 RP SEQUENCE FROM N.A. (ISORFMS VEGF-1; VEGF-2 AND VEGF-3).
 RA MEDLINE=92274860; PubMed=1592003;
 RA Breier G., Albrecht U., Steiner S., Risau W.;
 RT "Expression of vascular endothelial growth factor during embryonic angiogenesis and endothelial cell differentiation.";
 RL Development 114:521-532(1992).
 RN [2]
 RP SEQUENCE FROM N.A. (ISORFMS VEGF-1).
 RA MEDLINE=9235593; PubMed=1644816;
 RA Claffey K.P., Wilkison W.O., Spiegelman B.M.;
 RT "Vascular endothelial growth factor. Regulation by cell differentiation and activated second messenger pathways.";
 RL J. Biol. Chem. 267:16317-16322(1992).
 RN [3]
 RP SEQUENCE OF 1-3 FROM N.A.
 RA MEDLINE=96216498; PubMed=8632007;
 RA Shima D.T., Kuroki M., Deutsch U., Ng Y., Adams A.P., D'Amore P.A.;
 RT "The mouse gene for vascular endothelial growth factor. Genomic structure, definition of the transcriptional unit, and characterization of transcriptional and post-transcriptional regulatory sequences.";
 RL J. Biol. Chem. 271:3877-3883(1996).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF-1 and VEGF-2 are secreted while VEGF-3 remains cell-surface associated unless released by heparin.
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=3;
 CC Name=VEGF-3; Synonyms=VEGF18;
 CC IsoId=000731-1; Sequence=Displayed;
 CC Name=VEGF-1; Synonyms=VEGF164;
 CC IsoId=000731-2; Sequence=VSP_004626, VSP_004627;
 CC Name=VEGF-2; Synonyms=VEGF120;
 CC IsoId=000731-3; Sequence=VSP_004628;
 CC -1- TISSUE SPECIFICITY: In developing embryos, expressed mainly in the choroid plexus, paraventricular neuroepithelium, placenta and kidney glomeruli; also found in bronchial epithelium, adrenal gland and in seminiferous tubules of testis. High expression of VEGF continues in kidney glomeruli and choroid plexus in adults.
 CC -1- DOMAIN: VEGF-3 contains a basic insert which acts as a cell retention signal.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.

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CC
 DR EMBL, S37052; AAB22252.1; -;
 DR EMBL, S38083; AAB22253.1; -;
 DR EMBL, S38100; AAB22254.1; -;
 DR EMBL, M95200; AAA40547.1; -;
 DR EMBL, U41383; -; NOT_ANNOTATED_CDS.
 DR PIR, A44881; A44881.
 DR PIR, B44881; B44881.
 DR HSSP, P15692; 2VPF.
 DR MGD, MGI:103178; VEGFA.
 DR InterPro, IPR000072; PD_growth_factor.
 DR Pfam, PF00341; PDGF_1.
 DR ProDom, PD001629; PD_growth_factor; 1.
 DR SMART, SM00141; PDGF_1.
 DR PROSITE, PS00249; PDGF_1; 1.
 DR PROSITE, PS50278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Alternative splicing; Multigene family.
 KW SIGNAL
 FT CHAIN 1 26
 FT DISULFID 27 214
 FT DISULFID 51 93
 FT DISULFID 82 127
 FT DISULFID 86 129
 FT DISULFID 76 76
 FT DISULFID 85 85
 FT CARBOHYD 100 100
 FT VASAPLIC 140
 FT VASAPLIC 141 164
 FT VASAPLIC 141 208
 FT VASAPLIC 117 118
 FT CONFLICT 117 118
 FT SEQUENCE 214 AA; 25283 MW; B5540B51E4B6E17 CRC64;
 SQ

Query Match 83.7%; Score 72; DB 1; Length 214;
 Best Local Similarity 100.0%; Pred. No. 3e-06;
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 3 ESNITMOIMRIKPH 16
 |||||
 Db 98 ESNITMOIMRIKPH 111

RESULT 3
 ID VEGA_SHEEP STANDARD; PRT: 146 AA.

AC P50412;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 DE VEGF OR VEGFA.
 GN Ovis aries (Sheep).
 OS Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae; Caprinae; Ovis.
 OC NCBI_TaxID=9940;
 OX [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Kidney;
 RX MEDLINE=97111958; PubMed=8958842;
 RA Redmer D.A., Dai Y., Li J., Charnock-Jones D.S., Smith S.K., Reynolds L.P., Moor R.M.;

```

RT "Characterization and expression of vascular endothelial growth
RT factor (VEGF) in the ovine corpus luteum."
RL J. Reprod. Fertl. 108:157-165(1996).
CC
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
DR EMBL; X89506; CA61677.1; -.
DR PIR; S57956; S57956.
DR HSSP; P15692; IVP.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR MitoGen; Angiogenesis; Growth factor; Glycoprotein; signal;
DR Heparin-binding; Multigene family.
KW SIGNAL.
FT CHAIN 1 26 BY SIMILARITY.
FT DISULFID 51 146 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CARBOHYD 100 100 N-LINKED (GLCNAC:...) (POTENTIAL).
SQ SEQUENCE 146 AA; 17247 MW; 4E792CB557F91760 CRC64;

Query Match 82.6%; Score 71; DB 1; Length 146;
Best Local Similarity 93.3%; Pred. No. 3.1e-06;
Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 2 EESNITQIMRIKPH 16
Db 97 EEFNITQIMRIKPH 111

RESULT 4
VEGA_CAVPO STANDARD; PRT; 164 AA.
ID VEGA_CAVPO
AC P26617;
DT 01-AUG-1992 (Rel. 23, Created)
DT 01-AUG-1992 (Rel. 23, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A (VEGF-A) (Vascular permeability
DE factor) (VPF).
GN VEGF OR VEGFA.
OS Cavia porcellus (Guinea pig).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Hystricognathi; Caviidae; Cavia.
OX NCBI_TaxID=10141;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Blle duct;
RA Berse B.;
RL Submitted (JAN-1992) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth. Induces endothelial proliferation and vascular
CC permeability (By similarity).

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CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL; M84230; AAA37057.1; -.
DR HSSP; P15692; IYGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS50278; PDGF_2; 1.
DR MitoGen; Angiogenesis; Growth factor; Glycoprotein.
FT DISULFID 25 67 BY SIMILARITY.
FT DISULFID 56 101 BY SIMILARITY.
FT DISULFID 60 103 BY SIMILARITY.
FT DISULFID 50 50 INTERCHAIN (BY SIMILARITY).
FT DISULFID 59 59 INTERCHAIN (BY SIMILARITY).
FT CARBOHYD 74 74 N-LINKED (GLCNAC:...) (POTENTIAL).
SQ SEQUENCE 164 AA; 19330 MW; 9EB86A81A9D5DCA4 CRC64;

Query Match 82.6%; Score 71; DB 1; Length 164;
Best Local Similarity 93.3%; Pred. No. 3.5e-06;
Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 2 EESNITQIMRIKPH 16
Db 71 EEFNITQIMRIKPH 85

RESULT 5
VEGA_BOVIN STANDARD; PRT; 190 AA.
ID VEGA_BOVIN
AC P15691;
DT 01-APR-1990 (Rel. 14, Created)
DT 01-APR-1990 (Rel. 14, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Bos taurus (Bovine).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Bovinae; Bos.
OX NCBI_TaxID=9913;
RN [1]
RP SEQUENCE FROM N.A. AND SEQUENCE OF 27-47.
RX MEDLINE=90069608; PubMed=2479986;
RA Leung D.W., Cachianes G., Kuang W.-D., Goeddel D.V., Ferrara N.;
RT "Vascular endothelial growth factor is a secreted angiogenic
RT mitogen."
RL Science 246:1306-1309(1989).
RN [2]
RP SEQUENCE OF 27-190 FROM N.A. (ISOFORMS ALPHA AND BETA).
RX MEDLINE=90121225; PubMed=2610687;
RA Tischer E., Gospodarowicz D., Mitchell R., Silva M., Schilling J.,
RA Lau K., Crisp T., Fiddes J.C., Abraham J.A.;
RT "Vascular endothelial growth factor: a new member of the platelet-
RT derived growth factor gene family."
RL Biochem. Biophys. Res. Commun. 165:1198-1206(1989).
RN [3]
RP SEQUENCE OF 27-31.

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RA	MEDLINE=89286596; PubMed=2735925;
RX	Ferrara N., Henzel W.J.;
RT	"pituitary follicular cells secrete a novel heparin-binding growth factor specific for vascular endothelial cells."
RL	Biochem. Biophys. Res. Commun. 161:851-858(1989).
CC	-1 FUNCTION: Growth factor active in angiogenesis; Vasclogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
CC	-1 SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (by similarity).
CC	-1 SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
CC	-1 ALTERNATIVE PRODUCTS:
CC	Event-Alternative applying; Named isoforms=2;
CC	Name=Alpha;
CC	IsoId=P15691-1; Sequence=Displayed;
CC	IsoId=P15691-2; Sequence=VSP_004613, VSP_004614;
CC	-1 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC	-----
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CC	-----
DR	EMBL; M32976; AAA30502.1; .
DR	EMBL; M31836; AAA30804.1; .
DR	EMBL; M33750; AAA30805.1; .
DR	PIR; B40080; B40080.
DR	HSSP; P15692; IVGH.
DR	InterPro; IPR000072; PD_growth_factor.
DR	Pfam; PF00341; PDGF_1.
DR	Prodrom; PD001629; PD_growth_factor; 1.
DR	SMART; SMO0141; PDGF_1.
DR	PROSITE; PS00249; PDGF_1; 1.
KM	Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Alternative splicing; Multigene family.
FT SIGNAL	1 26
FT CHAIN	27 190
FT DISULFID	51 93
FT DISULFID	82 127
FT DISULFID	86 129
FT DISULFID	76 76
FT DISULFID	85 85
FT CARBOHYD	100 100
VASAPLIC	139 183
VASAPLIC	184 184
SEQENCE	190 AA; 22310 MM; EDPF903E46E24789 CRC64;
Query Match	82.6%; Score 71; DB 1; Length 190;
Best Local Similarity	93.3%; Pred. No. 4e-06;
Matches 14; Conservative	0; Mismatches 1; Indels 0; Gaps 0;
OY	2 EESNITWQIMRIKPH 16
Dd	97 EEFNTWQIMRIKPH 111
RESULT 6	
VEGA_MESAU	
ID_VEGA_MESAU	STANDARD; PRT; 190 AA.
AC_O99PS1	
DT	28-FEB-2003 (Rel. 41, Created)

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DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
DE VEGF OR VEGFA.
OS Mesocricetus auratus (Golden hamster).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
OC Mesocricetus.
OC NCBI_TaxID=10036;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Decidua, and Embryo;
RX MEDLINE=99311285; PubMed=10382276;
RA Yi X.J., Jiang H.Y., Lee K.K., Tang P.L., Chow P.H.;
RT "Expression of vascular endothelial growth factor (VEGF) and its
RT receptors during embryonic implantation in the golden hamster
RT (Mesocricetus auratus).";
RL Cell Tissue Res. 296:339-349(1999).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC -----
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CC -----
CC EMBL: AF063013; AAK00049.1; -.
DR HSSP; P15692; IYCH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR PRODom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1.
DR PROSITE; PS0278; PDGF_2; 1.
DR MitoGen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Heparin-binding; Multigene family.
KW SIGNAL.
FT CHAIN 1 26 BY SIMILARITY.
FT DISULFID 27 190 VASCULAR ENDOTHELIAL GROWTH FACTOR A.
FT DISULFID 51 93 BY SIMILARITY.
FT DISULFID 82 127 BY SIMILARITY.
FT DISULFID 86 129 BY SIMILARITY.
FT DISULFID 76 76 INTERCHAIN (BY SIMILARITY).
FT DISULFID 85 85 INTERCHAIN (BY SIMILARITY).
FT CARBOHYD 100 100 N-LINKED (GLCNAC... ) (POTENTIAL).
SQ SEQUENCE 190 AA; 22276 MW; P00CBA8E794465F CRC64;

Query Match 82.6%; Score 71; DB 1; Length 190;
Beat Local Similarity 92.9%; Pred. No. 4e-06;
Matches 13; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Oy 3 ESNITMOIMRKPH 16
Db 98 ESNITMOIMRKPH 111

RESULT 7
VEGA_PIG STANDARD; PRT; 190 AA.
ID_VEGA_PIG
AC P49151; O9GL52;

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QY	2	ESBSITMOIMRIKPH	16
DT	01-FEB-1996	(Rel. 33, Created)	
DT	01-FEB-1996	(Rel. 33, Last sequence update)	
DT	28-FEB-2003	(Rel. 41, Last annotation update)	
DE	Vascular endothelial growth factor A precursor (VEGF-A)	(Vascular permeability factor) (VPF).	
DE	VEGF OR VEGFA:		
OS	Sus scrofa (Pig).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Cetartiodactyla; Suidae; Sus.		
OC	NCBI_TaxID=9823;		
OX	(1)		
RN	SEQUENCE FROM N.A.		
RP	Lee T., Coney J.M.;		
RA	"PCR cloning of porcine cardiac vascular endothelial growth factor gene."		
RT	Submitted (NOV-2000) to the EMBL/Genbank/DBJ databases.		
RL	FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).		
CC	-1 SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).		
CC	-1 SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).		
CC	-1 SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.		
CC	-----		
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CC	-----		
DR	EMBL, X81380; CAA57143.1; -.		
DR	EMBL, AF318502; AAG33064.1; -.		
DR	PIR, S52130; S52130.		
DR	HSSP, P15692; 1VGH.		
DR	InterPro, IPR000072; PD_growth_factor.		
DR	Pfam, PF00341; PDGF, 1.		
DR	ProDom, PD001629; PD_growth_factor; 1.		
DR	SMART, SM00141; PDGF, 1.		
DR	PROSITE, PS00249; PDGF_1; 1.		
DR	PROSITE, PS00278; PDGF_2; 1.		
KW	Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal; Heparin-binding; Multigene family.		
KW	HEPARIN-BINDING; Multigene family.		
FT	SIGNAL	1	26
FT	CHAIN	27	190
FT	DISULFID	51	93
FT	DISULFID	82	127
FT	DISULFID	86	129
FT	DISULFID	76	76
FT	DISULFID	85	85
FT	CARBOHYD	100	100
FT	CONFLICT	102	102
FT	CONFLICT	102	102
FT	SEQUENCE	190 AA;	23368 MW; 04D408BD7913047F CRC64;
QY	Query Match	82.6%;	Score 71; DB 1; Length 190;
QY	Best Local Similarity	93.3%;	Pred. No. 4e-06;
QY	Matches	14; Conservative	0; Mismatches 1; Indels 0; Gaps 0;

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DB          97 EEFNITWQIMRKXPH 111
RESULT 8
ID _VEGA_CANFA STANDARD; PRT; 214 AA.
AC 09MYV3; 09XSF3; 09XSFF4; 09XSFF5;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
DE VEGF OR VEGFA.
OS Canis familiaris (dog).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
OX NCBI_TaxID=9615;
RN [1]
RP SEQUENCE FROM N.A. (ISOFORM VEGF-188).
RX MEDLINE=20125516; PubMed=10661874;
RX Scheidegger P., Weiglhofer W., Suarez S., Kaser-Hotz B., Steiner R., Balmer-Hofer K., Jausel R.;
RT "Vascular endothelial growth factor (VEGF) and its receptors in tumor-bearing dogs.";
RT Biol. Chem. 380:1449-1454(1999).
RN [2]
RN SEQUENCE FROM N.A. (ISOFORMS VEGF-188, VEGF-182 AND VEGF-164).
RP TISSUE-Heart;
RC Jingsing L., Roque R.S.;
RA Submitted (MAR-1999) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or to the extracellular matrix unless released by heparin (By similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event-Alternative splicing; Named isoforms=3;
CC Comment=Additional isoforms seem to exist;
CC Name=VEGF-188;
CC IsoId=Q9MYV3-1; Sequence=Displayed;
CC Name=VEGF-182;
CC IsoId=Q9MYV3-2; Sequence=VSP_004617;
CC Name=VEGF-164;
CC IsoId=Q9MYV3-3; Sequence=VSP_004615, VSP_004616;
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC
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CC -----
CC EMBL, AJ133758; CAB82426.1; -
CC EMBL, AF133250; AAD29684.1; -
CC EMBL, AF133249; AAD29683.1; -
CC EMBL, AF133248; AAD29682.1; -
CC HSSP: P15692; 1VGH.
CC InterPro: IPR000072; PD_growth_factor.
CC Pfam: PF00341; PDGF_1.
CC ProDom: PD001629; PD_growth_factor; 1.
CC SMART, SMO0141; PDGF_1.
CC PROSITE, PS00249; PDGF_1; 1.
CC PROSITE, PS00278; PDGF_2; 1.
CC Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW

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KW Heparin-binding; Alternative splicing; Multigene family.
 FT SIGNAL 1 26
 FT SUBCAT 27 214
 FT DISULFID 51 93
 FT DISULFID 82 127
 FT DISULFID 86 129
 FT DISULFID 76 76
 FT DISULFID 85 85
 FT CAROHYD 100 100
 FT VARSPLIC 140 140
 FT VARSPLIC 141 164
 FT VARSPLIC 159 164
 FT CONFLICT 143 143
 FT CONFLICT 161 161
 SQ SEQUENCE 214 AA; 25175 MW; 0AC980A158C44B27 CRC64;
 Query Match 82.6%; Score 71; DB 1; Length 214;
 Best Local Similarity 93.3%; Pred. No. 4.6e-06;
 Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 Oy 2 ESNITMQRIRKPH 16
 Db 97 EEFNTMQRIRKPH 111
 RESULT 9
 VEGA_RAT STANDARD; PRT; 214 AA.
 AC P16612; Q9JGX7; Q9JGX6; Q9JGX7;
 DT 01-AUG-1990 (Rel. 15, Created)
 DT 28-FEB-2003 (Rel. 41, Last sequence update)
 DT 28-FEB-2003 (Rel. 41, Last annotation update)
 DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular permeability factor) (VPF).
 GN VEGF OR VEGFA.
 OS Rattus norvegicus (Rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
 OK NCBI_TaxID=10116;
 RN [1]
 RP SEQUENCE FROM N.A. (ISOFORM VEGF-A164), AND SEQUENCE OF 27-190.
 RX MEDLINE=90207249; PubMed=2320579;
 RA Conn G., Bayne M., Soderman D.D., Kwok P.W., Sullivan K.A.,
 RA Palisi T.M., Hope D.A., Thomas K.A.;
 RT "Amino acid and cDNA sequences of a vascular endothelial cell mitogen that is homologous to platelet-derived growth factor";
 RT Proc. Natl. Acad. Sci. U.S.A. 87:2628-2633 (1990).
 RN [2]
 RP SEQUENCE FROM N.A. (ISOFORMS VEGF-A188; VEGF-A164; VEGF-A144 AND VEGF-A120).
 RA Ishii H., Arakawa T., Okayama M., Oota I., Takuma T., Inomata K.;
 RT "Developmental expression of vascular endothelial growth factor-A (VEGF-A) splicing variants, VEGF-A188, VEGF-A164, and VEGF-A120 in rat mesenteric muscle";
 RT Submitted (DEC-1999) to the EMBL/GenBank/DBJ databases.
 RN [3]
 RP SEQUENCE OF 27-40.
 RC TISSUE=Glial tumor;
 RX MEDLINE=95221439; PubMed=7706320;
 RA Disalvo J., Bayne M.L., Conn G., Kwok P.W., Trivedi P.G.,
 RA Soderman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;
 RT "Purification and characterization of a naturally occurring vascular endothelial growth factor, placenta growth factor heterodimer";
 RT J. Biol. Chem. 270:7117-7123 (1995).
 CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and endothelial cell growth. It induces endothelial cell proliferation, promotes cell migration, inhibits apoptosis, and induces permeabilization of blood vessels. It binds to the VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and heparin (By similarity).
 CC

CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer with PlGF (By similarity).
 CC -1- SUBCELLULAR LOCATION: VEGF-A120 is acidic and freely secreted. VEGF-A164 is more basic, has heparin-binding properties and, although a significant proportion remains cell-associated, most is freely secreted. VEGF-A188 is very basic; it is cell-associated after secretion and is bound avidly by heparin and the extracellular matrix, although it may be released as a soluble form by heparin, heparinase or plasmin (By similarity).
 CC -1- ALTERNATIVE PRODUCTS:
 CC Event=Alternative splicing; Named isoforms=4;
 CC Comment=Additional isoforms seem to exist;
 CC Name=VEGF-A188;
 CC IsoId=P16612-1; Sequence=Displayed;
 CC Name=VEGF-A164;
 CC IsoId=P16612-2; Sequence=VSP_004629, VSP_004630;
 CC Name=VEGF-A144;
 CC IsoId=P16612-3; Sequence=VSP_004632;
 CC Name=VEGF-A120;
 CC IsoId=P16612-4; Sequence=VSP_004631;
 CC -1- TISSUE SPECIFICITY: Expressed in the pituitary, in brain, in particular in supraoptic and paraventricular nuclei and the choroid plexus. Also found abundantly in the corpus luteum of the ovary and in kidney glomeruli.
 CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
 CC -----
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 CC -----
 DR EMBL; M32167; AAA41211.1; -;
 DR EMBL; AF215725; AAF19211.1; -;
 DR EMBL; AF215726; AAF19212.1; -;
 DR EMBL; AF222779; AAF25958.1; -;
 DR HSSP; P15692; 1VPP.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1.
 DR PROSITE; PS0278; PDGF_2; 1.
 KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
 KW Heparin-binding; Alternative splicing; Multigene family.
 FT SIGNAL 1 26
 FT CHAIN 27 214
 FT DISULFID 51 93
 FT DISULFID 82 127
 FT DISULFID 86 129
 FT DISULFID 76 76
 FT DISULFID 85 85
 FT CAROHYD 100 100
 FT VARSPLIC 140 140
 FT VARSPLIC 141 164
 FT VARSPLIC 141 164
 FT VARSPLIC 141 164
 FT VARSPLIC 141 208
 FT VARSPLIC 165 208
 FT CONFLICT 101 101
 SQ SEQUENCE 214 AA; 25239 MW; 60PB876F304946 CRC64;
 Query Match 82.6%; Score 71; DB 1; Length 214;
 Best Local Similarity 92.9%; Pred. No. 4.6e-06;
 Matches 13; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
 Oy 3 ESNITMQRIRKPH 16
 Db 98 EEFNTMQRIRKPH 111

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RESULT 10
VEGA_HORSE
ID_VEGA_HORSE      STANDARD;      PRT;      190 AA.
AC 09GKR0;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
[1]
RN SEQUENCE FROM N.A.
RA Miura N., Misumi K., Kawahara K., Nakashima M., Fukumitsu S.,
RA Kawabata H., Uto N., Oka T., Maruyama I., Sakamoto H.;
RT "Cloning of cDNA and high-level expression of equine vascular
RT endothelial growth factor (VEGF).";
RL Submitted (JAN-2001) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth. Induces endothelial proliferation and vascular
CC permeability (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PLGF (By similarity).
CC -1- SUBCELLULAR LOCATION: Secreted but remains associated to cells or
CC to the extracellular matrix unless released by heparin (By
CC similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
-----
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CC or send an email to license@isb-sib.ch).
-----
DR EMBL; AB053350; BAB20890.1; -.
DR HSSP; P15692; 1VGH.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1; 1.
DR PROSITE; PS00278; PDGF_2; 1.
KW Mitogen; Angiogenesis; Growth factor; Glycoprotein; Signal;
KW Multigene family.
FT SIGNAL 1 26
FT CHAIN 1 190
FT DISULFID 51 93
FT DISULFID 82 127
FT DISULFID 86 129
FT DISULFID 76 76
FT DISULFID 85 85
FT CARBOHYD 100 100
SQ SEQUENCE 190 AA; 22312 MW; 87BE9E161439E5F87 CRC64;

Query Match 76.7%; Score 66; DB 1; Length 190;
Best Local Similarity 92.9%; Pred. No. 3,6e-05;
Matches 13; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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AC P52582; Q91420;
DT 01-OCT-1996 (Rel. 34, Created)
DT 15-JUL-1998 (Rel. 36, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Vascular endothelial growth factor A precursor (VEGF-A) (Vascular
DE permeability factor) (VPF).
GN VEGF OR VEGFA.
OS Gallus gallus (Chicken), and
OS Coturnix coturnix japonica (Japanese quail).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_TaxID=9031, 93934;
[1]
RN SEQUENCE FROM N.A.
RA SPECIES=Chicken; TISSUE=Heart;
RA Takahashi T.;
RT "Chick embryonic ventricular myocytes VEGF.";
RL Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
[2]
RN SEQUENCE FROM N.A. (ISOFORMS VEGF-190; VEGF-166 AND VEGF-146).
RX SPECIES=C.c.japonica; TISSUE=Embryo;
RX MEDLINE=96005007; PubMed=7556923;
RA Flame I., von Reutern M., Drexler H.C., Syed-Ali S., Rissau W.;
RT "Overexpression of vascular endothelial growth factor in the avian
RT embryo induces hypervascularization and increased vascular
RT permeability without alterations of embryonic pattern formation.";
RL Dev. Biol. 171:399-414(1995).
[3]
RN SEQUENCE OF 60-187 FROM N.A. (ISOFORMS VEGF-190 AND VEGF-166).
RX SPECIES=C.c.japonica;
RX MEDLINE=95301109; PubMed=7781909;
RA Flame I., Breier G., Rissau W.;
RT "Vascular endothelial growth factor (VEGF) and VEGF receptor 2
RT (Flk-1) are expressed during vasculogenesis and vascular
RT differentiation in the quail embryo.";
RL Dev. Biol. 169:699-712(1995).
CC -1- FUNCTION: Growth factor active in angiogenesis, vasculogenesis and
CC endothelial cell growth. It induces endothelial cell
CC proliferation, promotes cell migration, inhibits apoptosis, and
CC induces permeabilization of blood vessels. It binds to the
CC VEGFR1/Flt-1 and VEGFR2/Kdr receptors and to heparan sulfate and
CC heparin (By similarity).
CC -1- SUBUNIT: Homodimer; disulfide-linked. Also found as heterodimer
CC with PLGF (By similarity).
CC -1- ALTERNATIVE PRODUCTS:
CC Event-Alternative splicing; Named isoforms=3;
CC Comment=Additional isoforms seem to exist;
CC Name=VEGF-190;
CC IsoId=P52582-1; Sequence=Displayed;
CC Name=VEGF-166;
CC IsoId=P52582-2; Sequence=VSP_004633, VSP_004634;
CC Note=Has been shown to exist only in quail so far;
CC Name=VEGF-146;
CC IsoId=P52582-3; Sequence=VSP_004635, VSP_004636;
CC Note=Has been shown to exist only in quail so far;
CC -1- TISSUE SPECIFICITY: Abundantly and equally expressed in heart and
CC liver. In kidney glomeruli, brain and yolk sac, VEGF-166 is 5- to
CC 10-times more abundant than VEGF-190.
CC -1- DEVELOPMENTAL STAGE: VEGF-166 is expressed early at day 1 and is
CC upregulated during gastrulation. Expression of VEGF-190 is detectable
CC only from day 2.
CC -1- DOMAIN: VEGF-190 contains a basic insert which acts as a cell
CC retention signal.
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
-----
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[illegible]

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CC      heterodimer with VEGF/VEGF-A (by similarity).
CC      SUBCELLULAR LOCATION: Secreted (By similarity).
CC      -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC      -----
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CC      or send an email to license@ebi-tribe.ch.
CC      -----
DR      EMBL; X80171; CAA65453.1; -
DR      HSSP; P49763; IFZV.
DR      MGD; MG1:105095; Pgf.
DR      InterPro; IPR000072; PD_growth_factor.
DR      Pfam; PF00341; PDGF_1.
DR      ProDom; PD001629; PD_growth_factor; 1.
DR      SMART; SM00141; PDGF; 1.
DR      PROSITE; PS00249; PDGF_1; 1.
DR      PROSITE; PS50278; PDGF_2; 1.
KW      Angiogenesis; Mitogen; Growth factor; Glycoprotein; signal.
FT      SIGNAL          1      18
FT      CHAIN           19     158
FT      DISULFID        48     90
FT      DISULFID        79    125
FT      DISULFID        83    127
FT      DISULFID        73     73
FT      DISULFID        82     82
FT      CARBOHYD        29     29
FT      CARBOHYD        30     30
FT      CARBOHYD        97     97
SQ      SEQUENCE      158 AA; 17876 MW; F16128BEA0790438 CRC64;
Oy      4 SNTTQIMRIKEH 16
Db      96 ANITMQLKIPN 108

Query Match      52.3%; Score 45; DB 1; Length 158;
Best Local Similarity 61.5%; Pred. No. 0.29;
Matches      8; Conservative      4; Mismatches      1; Indels      0; Gaps      0

Oy      4 SNTTQIMRIKEH 16
Db      96 ANITMQLKIPN 108

RESULT 13
PLGF RAT
ID _PLGF RAT      STANDARD;      PRT;      158 AA.
AC Q6434;
DT 28-FEB-2003 (Rel. 41, Created)
DT 28-FEB-2003 (Rel. 41, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Placenta growth factor precursor (PLGF).
GN PLGF.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
RX NCBI_TaxID=10116;
RX [1]
RP SEQUENCE FROM N.A. AND PARTIAL SEQUENCE.
RX MEDLINE=95521439; Pubmed=7706201.
RA Disalvo J., Bayne W.L., Conn G., Kwok P.W., Trivedi P.G.,
RA Sodeman D.D., Palisi T.M., Sullivan K.A., Thomas K.A.;
RT "Purification and characterization of a naturally occurring vascular
RT endothelial growth factor:placenta growth factor heterodimer.";
RL J. Biol. Chem. 270:7717-7723(1995)
CC -1- FUNCTION: Growth factor active in angiogenesis, and endothelial
CC cell growth, stimulating their proliferation and migration. It
CC binds to receptor VEGFR-1/Flt1 (By similarity).
CC -1- SUBUNIT: Antiparallel homodimer; disulfide-linked. Also found as
CC heterodimer with VEGF/VEGF-A.
CC -1- SUBCELLULAR LOCATION: Secreted (By similarity).
CC -1- SIMILARITY: BELONGS TO THE PDGF/VEGF FAMILY OF GROWTH FACTORS.
CC      -----

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CC -----
DR EMBL; L40030; AAA97426.1; -
DR PIR; A56125; A56125.
DR HSSP; P49763; IEFV.
DR InterPro; IPR000072; PD_growth_factor.
DR Pfam; PF00341; PDGF_1.
DR ProDom; PD001629; PD_growth_factor; 1.
DR SMART; SM00141; PDGF_1.
DR PROSITE; PS00249; PDGF_1.
DR PROSITE; PS0278; PDGF_2; 1.
KW Angiogenesis; Mitogen; Growth factor; Glycoprotein; signal.
FT SIGNAL 1 23
FT CHAIN 24 158 OR 26.
FT DISULFID 48 90 PLACENTA GROWTH FACTOR.
FT DISULFID 79 125 BY SIMILARITY.
FT DISULFID 83 127 BY SIMILARITY.
FT DISULFID 73 73 INTERCHAIN (BY SIMILARITY).
FT DISULFID 82 82 INTERCHAIN (BY SIMILARITY).
FT CARBOHYD 29 29 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 30 30 N-LINKED (GLCNAC. . .) (POTENTIAL).
FT CARBOHYD 97 97 N-LINKED (GLCNAC. . .).
SQ SEQUENCE 158 AA; 17681 MW; B477137A82E15B9 CRC64;

Query Match 52.3%; Score 45; DB 1; Length 158;
Best Local Similarity 61.5%; Pred. No. 0.29;
Matches 8; Conservative 4; Mismatches 1; Indels 0; Gaps 0;

Oy 4 SNITMOIRIKPH 16
Db 96 ANITMOIRIKIPN 108

RESULT 14
IR52_HUMAN STANDARD; PRT; 1324 AA.
ID IR52_HUMAN
AC Q9Y4H2;
DT 30-MAY-2000 (Rel. 39, Created)
DT 30-MAY-2000 (Rel. 39, Last sequence update)
DT 28-FEB-2003 (Rel. 41, Last annotation update)
DE Insulin receptor substrate-2 (IRS-2).
GN IRS2.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
OX NCBI_TaxID=9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE;97460123; PubMed;9312143;
RA Ogihara T., Isebe T., Ichimura T., Taoka M., Funaki M., Sakoda H.,
RA Onishi Y., Inukai K., Anai M., Fukushima Y., Kikuchi M., Yazaki Y.,
RA Oka Y., Amano T.
RT "14-3-3 protein binds to insulin receptor substrate-1, one of the
RT binding sites of which is in the phosphotyrosine binding domain.";
RL J. Biol. Chem. 272:25267-25274(1997).
CC -1- FUNCTION: MAY MEDATE THE CONTROL OF VARIOUS CELLULAR PROCESSES
CC BY INSULIN.
CC -1- SIMILARITY: Contains 1 PH domain.
CC -1- SIMILARITY: Contains 1 PTB domain.
CC -----
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CC -----
DR EMBL; AB000732; BAA24500.1; -
DR HSSP; P35568; IRS.
DR GeneW; HGNC:6126; IRS2.
DR MIR; 600797; -.
DR GO; GO:0004871; F:signal transducer activity; TAS.
DR GO; GO:0006006; P:glucose metabolism; TAS.
DR GO; GO:0007165; P:signal transduction; TAS.
DR InterPro; IPR002404; Insln_receptor1.
DR InterPro; IPR001849; PH.
DR Pfam; PF02174; IRS; 1.
DR Pfam; PF00169; PH; 1.
DR PRINTS; PR00628; INSULINRS1.
DR SMART; SM00233; PH; 1.
DR SMART; SM00310; PTBI; 1.
DR PROSITE; PS50003; PH_DOMAIN; 1.
KW Phosphorylation; Polymorphism.
FT DOMAIN 16 144
FT DOMAIN 190 303
FT MOD_RES 540 540
FT MOD_RES 653 653
FT MOD_RES 675 675
FT MOD_RES 919 919
FT MOD_RES 978 978
FT MOD_RES 1253 1253
FT MOD_RES 1253 1253
FT DOMAIN 19 28
FT DOMAIN 371 380
FT DOMAIN 447 452
FT DOMAIN 460 467
FT DOMAIN 533 537
FT DOMAIN 642 645
FT DOMAIN 694 701
FT DOMAIN 944 947
FT DOMAIN 1031 1038
FT DOMAIN 1265 1278
FT VARIANT 1057 1057
SQ SEQUENCE 1324 AA; 136482 MW; 3D7B4AB2AE45104 CRC64;

Query Match 51.2%; Score 44; DB 1; Length 1324;
Best Local Similarity 42.9%; Pred. No. 4.3;
Matches 6; Conservative 6; Mismatches 2; Indels 0; Gaps 0;

Oy 1 CEESNITMOIRIK 14
Db 233 CEPSVTLQIMNIR 246

RESULT 15
OSTA_SCHPO STANDARD; PRT; 450 AA.
ID OSTA_SCHPO
AC Q10176;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DT 15-SEP-2003 (Rel. 42, Last annotation update)
DE Putative dolichyl-diphosphooligosaccharide--protein
DE glycosyltransferase alpha subunit precursor (EC 2.4.1.119)
DE (Oligosaccharyl transferase alpha subunit).
GN SPAC27F1.07.
OS Schizosaccharomyces pombe (fission yeast).
OC Eukaryota; Fungi; Ascomycota; Schizosaccharomycetes;
OC Schizosaccharomycetales; Schizosaccharomycetaceae;
OC Schizosaccharomycetes.
OX NCBI_TaxID=4896;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=972;

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RA MEDLINE=21848401; PubMed=11859360;

RA Wood V., Williams R., Rajandream M.A., Lyne M., Lyne R., Stewart A.,

RA Sgouros J., Peat N., Hayles J., Baker S., Basham D., Bowman S.,

RA Brooks K., Brown D., Brown S., Chillingworth T., Churcher C.M.,

RA Collins M., Connor R., Cronin A., Davis P., Fellwell T., Frazer A.,

RA Gentles S., Goble A., Hamlin N., Harris D., Hidalgo J., Hodgson G.,

RA Holroyd S., Hornsby T., Howarth S., Huckle E.J., Hunt S., Jagsels K.,

RA James K., Jones L., Jones M., Leather S., McDonald S., McLean J.,

RA Mooney P., Moule S., Mungall K., Murphy L., Niblett D., Odeh C.,

RA Oliver K., O'Neill S., Pearson D., Quail M.A., Rabinowitch E.,

RA Rutherford K., Rutter S., Saunders D., Seeger K., Sharp S.,

RA Skelton J., Simmonds M., Squares R., Squares S., Stevens K.,

RA Taylor K., Taylor R.G., Tivey A., Walsh S.V., Warren T., Whitehead S.,

RA Woodward J., Volkhardt G., Aert R., Robben J., Grymoprez B.,

RA Wellens I., Vanstreels E., Rieger M., Schaefer M., Mueller-Auer S.,

RA Gabel C., Fuchs M., Fritz C., Holzer E., Moestl D., Hilbert H.,

RA Borzym K., Langer I., Beck A., Lehnach H., Reinhardt R., Pohl T.M.,

RA Eger P., Zimmermann W., Wedler H., Wambutt R., Purnelle B.,

RA Goffeau A., Cadieu E., Dreano S., Gloux S., Lelaure V., Mottier S.,

RA Galibert F., Aves S.J., Xiang Z., Hunt C., Moore K., Hurst S.M.,

RA Lucas M., Rochet M., Galliard C., Tallada V.A., Garzon A., Thode G.,

RA Daga R.R., Cruzado L., Jimenez J., Sanchez M., del Rey F., Benito J.,

RA Dominguez A., Revuelta J.L., Moreno S., Armstrong J., Forsburg S.L.,

RA Cerrutti L., Lowe T., McCombie W.R., Paulsen I., Potashkin J.,

RA Shpakowski G.V., Useery D., Barrell B.G., Nurse P.,

RA "The genome sequence of Schizosaccharomyces pombe.",

RT Nature 415:871-880(2002).

CC -!- FUNCTION: Essential subunit of N-oligosaccharyl transferase enzyme

CC which catalyzes the transfer of a high mannose oligosaccharide to

CC an asparagine residue within an Asn-X-Ser/Thr consensus motif in

CC nascent polypeptide chains.

CC -!- CATALYTIC ACTIVITY: Dolichyl diphosphooligosaccharide + protein L-

CC asparagine = dolichyl diphosphate + a glycoprotein with the

CC oligosaccharide chain attached by glycosylamine linkage to protein

CC L-asparagine.

CC -!- PATHWAY: Glycosylation.

CC -!- SUBCELLULAR LOCATION: Type I membrane protein. Endoplasmic

CC reticulum (By similarity).

CC -!- SIMILARITY: TO MAMMALIAN RIBOPHORIN I AND YEAST OST1.

CC

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CC between the Swiss Institute of Bioinformatics and the EMBL outstation

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CC or send an email to license@sib-sib.ch).

CC

CC EMBL, 269368; CAA93296.1; -

DR PIR: T38465; T38465.

DR Genedb, Spombe; SPAC27F1.07; -

DR Pfam, PF04597; Ribophorin_1; 1.

KW Hypothetical protein; Transferase; Endoplasmic reticulum;

KW Transmembrane; Glycoprotein; Signal.

FT SIGNAL 1 18

FT CHAIN 19 450

FT

FT PUTATIVE DOLICHYL-

FT DIPHOSPHOOLIGOSACCHARIDE--PROTEIN

FT GLYCOSYLTRANSFERASE ALPHA SUBUNIT.

FT LUMENAL (POTENTIAL).

FT

FT CYTOPLASMIC (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

FT

FT N-LINKED (GLCNAC. . .) (POTENTIAL).

Db 287 EVGNITSHMRVEPH 301

Search completed: January 30, 2004, 11:41:07
 Job time : 4.69231 secs

Query Match 50.0%; Score 43; DB 1; Length 450;

Best Local Similarity 53.3%; Pred. No. 2.1;

Matches 8; Conservative 2; Mismatches 5; Indels 0; Gaps 0;

QY 2 EESNITMQRIRKPH 16

|||||

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on: January 30, 2004, 11:33:38 ; Search time 16.5744 seconds
(without alignments)
249.110 Million cell updates/sec

Title: US-09-266-543-9

Perfect score: 86

Sequence: 1 CEESNITWQIMRIKPH 16

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 830525 seqs, 258052604 residues

Total number of hits satisfying chosen parameters: 830525

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : SPTREMBL_23:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*
15: sp_virus:*
16: sp_bacteriophage:*
17: sp_archaeal:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	77	89.5	65	6 Q8M1N0	Q8M1N0 capra hircu
2	77	89.5	109	6 Q8M1N1	Q8M1N1 capra hircu
3	77	89.5	126	6 Q8M1P7	Q8M1P7 macaca mula
4	77	89.5	191	4 Q8M1J0	Q8M1J0 homo sapien
5	77	89.5	191	4 Q8M1B2	Q8M1B2 homo sapien
6	77	89.5	191	4 Q8M1B5	Q8M1B5 macaca fasc
7	72	83.7	190	11 Q8M1X3	Q8M1X3 spalax leuc
8	71	82.6	78	6 Q8M1S2	Q8M1S2 capreolus c
9	71	82.6	113	6 Q8M1I20	Q8M1I20 ovis aries
10	71	82.6	118	6 Q8M1ZB1	Q8M1ZB1 ovis aries
11	71	82.6	123	6 Q8M1S1	Q8M1S1 capreolus c
12	71	82.6	124	6 Q8M1K00	Q8M1K00 callithrix
13	71	82.6	124	6 Q8M1P29	Q8M1P29 sus scrofa
14	71	82.6	131	6 Q8M1J86	Q8M1J86 capreolus c
15	71	82.6	142	11 Q8M1R6	Q8M1R6 mesocricetu
16	71	82.6	184	6 Q8M1Y70	Q8M1Y70 muscicela vis

17	71	82.6	189	6 Q8M1Q4	Q8M1Q4 felis silve
18	71	82.6	190	6 Q8M1E3	Q8M1E3 ovis aries
19	71	82.6	190	11 Q8M1E1	Q8M1E1 rattus norv
20	70	81.4	68	6 Q8M1J00	Q8M1J00 oryctolagus
21	70	81.4	75	6 Q8M1B43	Q8M1B43 oryctolagus
22	66	76.7	127	6 Q8M1M04	Q8M1M04 sus scrofa
23	66	76.7	128	6 Q8M1P15	Q8M1P15 equus caball
24	60	69.8	148	13 Q8M1S71	Q8M1S71 xenopus lae
25	60	69.8	194	13 Q8M1S72	Q8M1S72 xenopus lae
26	46	53.5	206	12 Q8M1B81	Q8M1B81 grapevine 1
27	46	53.5	599	12 Q8M1I21	Q8M1I21 grapevine 1
28	46	53.5	599	12 Q8M1S54	Q8M1S54 grapevine 1
29	46	53.5	811	5 Q8M1N2	Q8M1N2 dirosophila
30	46	53.5	1011	5 Q8M1S73	Q8M1S73 dirosophila
31	45	52.3	1788	5 Q8M1G61	Q8M1G61 caenorhabdit
32	44	51.2	300	5 Q8M1I87	Q8M1I87 caenorhabdit
33	44	51.2	1337	4 Q8M1R2	Q8M1R2 homo sapien
34	44	51.2	1338	4 Q8M1G15	Q8M1G15 homo sapien
35	44	51.2	1338	4 Q8M1ZG0	Q8M1ZG0 homo sapien
36	44	51.2	1338	4 Q8M1R4	Q8M1R4 homo sapien
37	44	51.2	1339	4 Q8M1R5	Q8M1R5 homo sapien
38	43	50.0	611	12 Q8M1S85	Q8M1S85 beet yellow
39	42	48.8	132	12 Q8M1M3	Q8M1M3 oit virus
40	42	48.8	144	13 Q8M1S22	Q8M1S22 brachydanio
41	42	48.8	188	13 Q8M1S82	Q8M1S82 brachydanio
42	42	48.8	472	12 Q8M1D9	Q8M1D9 arabidopsis
43	42	48.8	599	12 Q8M1B6	Q8M1B6 arabidopsis
44	42	48.8	671	10 Q8M1S49	Q8M1S49 arabidopsis
45	42	48.8	721	16 Q8M1E7	Q8M1E7 mycoplasma

ALIGNMENTS

RESULT 1

ID Q8M1N0 PRELIMINARY; PRT; 65 AA.
AC Q8M1N0;
DT 01-OCT-2002 (TREMBL) 22, Last sequence update)
DT 01-OCT-2002 (TREMBL) 23, Last annotation update)
DE 01-MAR-2003 (TREMBL) 23, Last annotation update)
DE Vascular endothelial growth factor 121 (Fragment).
OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Capra.
OX NCBI_TaxID=9925;
RN [1]
RP SEQUENCE FROM N.A.
RA TISSUE=Corpus luteum;
RA Kawate N., Teuji M., Tamada H., Inaba T., Sawada T.;
RT and Its Receptors during the Development and Maintenance of Caprine
RT Corpora Lutea.";
RL Submitted (MAY-2002) to the EMBL/GenBank/DBJ databases.
DR EMBL: AY114353; AAM7674.1; -
DR InterPro: IPR000072; PD_growth_factor.
DR Pfam: PF00341; PDGF_1.
DR ProDom: PD001629; PD_growth_factor; 1.
DR SMART: SM00141; PDGF_1.
DR PROSITE: PS00278; PDGF_2; 1.
FT NON TER
SQ
SEQUENCE 65 AA; 7562 MW; BA3E5384364B05E3 CRC64;

Query Match 89.5%; Score 77; DB 6; Length 65;
Best Local Similarity 100.0%; Pred. No. 5.3e-07;
Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 2 EESNITWQIMRIKPH 16
Db 16 EESNITWQIMRIKPH 30

RESULT 2

OBMIN1 PRELIMINARY; PRT; 109 AA.

ID OBMIN1

AC OBMIN1

DT 01-OCT-2002 (TREMBlrel. 22, Created)

DT 01-OCT-2002 (TREMBlrel. 22, Last sequence update)

DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)

DE Vascular endothelial growth factor 165 (Fragment)

OS Capra hircus (Goat)

OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;

OC Bovidae; Caprinae; Capra

OX NCBI_TaxID=9925;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Corpus luteum;

RA Kavate N., Tsuji M., Tamada H., Inaba T., Sawada T.;

RT "Changes of Messenger RNAs Encoding Vascular Endothelial Growth Factor and Its Receptors during the Development and Maintenance of Caprine Corpora Lutea."

RT Corpora Lutea."

RL Submitted (May-2002) to the EMBL/Genbank/DBJ databases.

DR EMBL; AY14352; AAM76673.1; PD_growth_factor.

DR InterPro; IPR000072; PD_growth_factor.

DR Pfam; PF00341; PDGF; 1.

DR ProDom; PD001629; PD_growth_factor; 1.

DR SMART; SM00141; PDGF; 1.

DR PROSITE; PS0278; PDGF_2; 1.

FT NON TER

SEQ SEQUENCE 109 AA; 12656 MW; 912657251A37E023 CRC64;

Query Match

Best Local Similarity 89.5%; Score 77; DB 6; Length 109;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16

Db 16 EESNITWQIMRIKPH 30

RESULT 3

Q9BDP7 PRELIMINARY; PRT; 126 AA.

ID Q9BDP7

AC Q9BDP7

DT 01-JUN-2001 (TREMBlrel. 17, Created)

DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)

DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)

DE Vascular endothelial growth factor (Fragment)

OS Macaca mulatta (Rhesus macaque)

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;

OC Cercopithecoidea; Macaca

OX NCBI_TaxID=9544;

RN [1]

RP SEQUENCE FROM N.A.

RA Hazard T.M., Nayak N.R., Jia Y., Stouffer R.L.;

RT "Rhesus macaque VEGF mRNA sequence."

RL Submitted (JUN-2001) to the EMBL/Genbank/DBJ databases.

DR EMBL; AF39737; AAK26379.1; --

DR HSSP; P49763; IEFV.

DR InterPro; IPR000072; PD_growth_factor.

DR Pfam; PF00341; PDGF; 1.

DR ProDom; PD001629; PD_growth_factor; 1.

DR SMART; SM00141; PDGF; 1.

DR PROSITE; PS0278; PDGF_2; 1.

FT NON TER

SEQ SEQUENCE 126 AA; 14599 MW; 1175F236A883BCF CRC64;

Query Match

Best Local Similarity 100.0%; Score 77; DB 6; Length 126;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16

Db 91 EESNITWQIMRIKPH 105

RESULT 4

Q96KJ0 PRELIMINARY; PRT; 191 AA.

ID Q96KJ0

AC Q96KJ0

DT 01-DEC-2001 (TREMBlrel. 19, Created)

DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)

DT 01-MAR-2003 (TREMBlrel. 23, Last annotation update)

DE Vascular endothelial growth factor 165b.

OS Homo sapiens (Human)

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo

OX NCBI_TaxID=9606;

RN [1]

RP SEQUENCE FROM N.A.

RC TISSUE=Kidney;

RA Sugiono M., Winkler M., Gyllatt D., Harper S.J., Bates D.O.;

RT "A new isoform of vascular endothelial growth factor mRNA is down-regulated in renal tumors."

RL (In) Unknown A. (eds.);

RL Proceedings of the 7th World Congress on Microcirculation, pp.3-3,

RL Sydney, Australia (2001).

DR EMBL; AF430806; AAL27435.1; --

DR InterPro; IPR000072; PD_growth_factor.

DR Pfam; PF00341; PDGF; 1.

DR ProDom; PD001629; PD_growth_factor; 1.

DR SMART; SM00141; PDGF; 1.

DR PROSITE; PS0278; PDGF_2; 1.

SEQ SEQUENCE 191 AA; 22258 MW; D25243E540AC79BD CRC64;

Query Match

Best Local Similarity 89.5%; Score 77; DB 4; Length 191;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16

Db 98 EESNITWQIMRIKPH 112

RESULT 5

Q96L82 PRELIMINARY; PRT; 191 AA.

ID Q96L82

AC Q96L82

DT 01-DEC-2001 (TREMBlrel. 19, Created)

DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)

DT 01-OCT-2002 (TREMBlrel. 22, Last annotation update)

DE Vascular endothelial growth factor.

GN VEGF.

OS Homo sapiens (Human)

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo

OX NCBI_TaxID=9606;

RN [1]

RP SEQUENCE FROM N.A.

RA Liu J., Peng X., Yuan J., Qiang B.;

RT "Cloning of vascular endothelial growth factor (VEGF) cDNA."

RL Submitted (JUL-2001) to the EMBL/Genbank/DBJ databases.

DR EMBL; AY047581; AAK95847.1; --

DR InterPro; IPR000072; PD_growth_factor.

DR Pfam; PF00341; PDGF; 1.

DR ProDom; PD001629; PD_growth_factor; 1.

DR PROSITE; PS0278; PDGF_2; 1.

SEQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match

Best Local Similarity 100.0%; Score 77; DB 4; Length 191;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16

Db 98 EESNITWQIMRIKPH 112

RESULT 5

Q96L82 PRELIMINARY; PRT; 191 AA.

ID Q96L82

AC Q96L82

DT 01-DEC-2001 (TREMBlrel. 19, Created)

DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)

DT 01-OCT-2002 (TREMBlrel. 22, Last annotation update)

DE Vascular endothelial growth factor.

GN VEGF.

OS Homo sapiens (Human)

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo

OX NCBI_TaxID=9606;

RN [1]

RP SEQUENCE FROM N.A.

RA Liu J., Peng X., Yuan J., Qiang B.;

RT "Cloning of vascular endothelial growth factor (VEGF) cDNA."

RL Submitted (JUL-2001) to the EMBL/Genbank/DBJ databases.

DR EMBL; AY047581; AAK95847.1; --

DR InterPro; IPR000072; PD_growth_factor.

DR Pfam; PF00341; PDGF; 1.

DR ProDom; PD001629; PD_growth_factor; 1.

DR PROSITE; PS0278; PDGF_2; 1.

SEQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match

Best Local Similarity 100.0%; Score 77; DB 4; Length 191;

Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 2 EESNITWQIMRIKPH 16

Db 98 EESNITWQIMRIKPH 112

RESULT 5

Q96L82 PRELIMINARY; PRT; 191 AA.

ID Q96L82

AC Q96L82

DT 01-DEC-2001 (TREMBlrel. 19, Created)

DT 01-DEC-2001 (TREMBlrel. 19, Last sequence update)

DT 01-OCT-2002 (TREMBlrel. 22, Last annotation update)

DE Vascular endothelial growth factor.

GN VEGF.

OS Homo sapiens (Human)

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo

OX NCBI_TaxID=9606;

RN [1]

RP SEQUENCE FROM N.A.

RA Liu J., Peng X., Yuan J., Qiang B.;

RT "Cloning of vascular endothelial growth factor (VEGF) cDNA."

RL Submitted (JUL-2001) to the EMBL/Genbank/DBJ databases.

DR EMBL; AY047581; AAK95847.1; --

DR InterPro; IPR000072; PD_growth_factor.

DR Pfam; PF00341; PDGF; 1.

DR ProDom; PD001629; PD_growth_factor; 1.

DR PROSITE; PS0278; PDGF_2; 1.

SEQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

QY 2 EESNTMQIMRIKPH 16
 |||||
 DB 98 EESNTMQIMRIKPH 112

RESULT 6

Q95NE5 PRELIMINARY; PRT; 191 AA.
 AC Q95NE5;
 DT 01-DEC-2001 (TReMBLrel. 19, Created)
 DT 01-DEC-2001 (TReMBLrel. 19, Last sequence update)
 DT 01-OCT-2002 (TReMBLrel. 22, Last annotation update)
 DE SIMVEGF165.
 GN SIMVEGF165.
 OS Macaca fascicularis (Crab eating macaque) (Cynomolgus monkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 OC Cercopithecinae; Macaca.
 NC NCB1_TaxID=9541;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=96245208; PubMed=8641836;
 RA Shima D.T., Gougos A., Miller J.W., Tolentino M., Robinson G.,
 RA Adams A.P., D'Amore P.A.;
 RT "Cloning and mRNA expression of vascular endothelial growth factor in
 ischemic retinas of Macaca fascicularis";
 RL Invest. Ophthalmol. Vis. Sci. 37:1334-1340 (1996).
 DR EMBL; S82167; ABA47118.1; -
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS00278; PDGF_2; 1.
 SQ SEQUENCE 191 AA; 22314 MW; CCE57097DD3779BD CRC64;

Query Match 89.5%; Score 77; DB 6; Length 191;
 Best Local Similarity 100.0%; Pred. No. 1.5e-06;
 Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 2 EESNTMQIMRIKPH 16
 |||||
 DB 98 EESNTMQIMRIKPH 112

RESULT 7

Q9OX39 PRELIMINARY; PRT; 190 AA.
 AC Q9OX39;
 DT 01-MAY-2000 (TReMBLrel. 13, Created)
 DT 01-MAY-2000 (TReMBLrel. 13, Last sequence update)
 DT 01-MAR-2003 (TReMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor.
 GN VEGF.
 OS Spalax leucodon ehrenbergi (Ehrenberg's mole rat).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Spalacinae;
 OC Nannospalax.
 NC NCB1_TaxID=30637;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=99313148; PubMed=10386577;
 RA Avivi A., Resnick M.B., Nevo E., Joel A., Levy A.P.,
 RA "Adaptive hypoxic tolerance in the subterranean mole rat Spalax
 ehrenbergi: the role of vascular endothelial growth factor";
 RL FEBS Lett. 452:133-140 (1999).
 DR EMBL; AF186236; AAD56245.1; -
 DR HSSP; P49763; 1FZV.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS00249; PDGF_1; 1.

DR PROSITE; PS00278; PDGF_2; 1.
 SQ SEQUENCE 190 AA; 22488 MW; 2228383BC65F0BF6 CRC64;

Query Match 83.7%; Score 72; DB 11; Length 190;
 Best Local Similarity 100.0%; Pred. No. 1.4e-05;
 Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 3 EESNTMQIMRIKPH 16
 |||||
 DB 98 EESNTMQIMRIKPH 111

RESULT 8

Q9N1S2 PRELIMINARY; PRT; 78 AA.
 AC Q9N1S2;
 DT 01-OCT-2000 (TReMBLrel. 15, Created)
 DT 01-OCT-2000 (TReMBLrel. 15, Last sequence update)
 DT 01-MAR-2003 (TReMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor isoform 121 (Fragment).
 GN VEGF.
 OS Capreolus capreolus (Roe deer).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidae;
 OC Cervidae; Odocoileinae; Capreolus.
 NC NCB1_TaxID=9858;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testis;
 RX MEDLINE=20532861; PubMed=11078967;
 RA Wagener A., Blotner S., Gortz F., Fickel J.;
 RT "Detection of growth factors in the testis of roe deer (Capreolus
 capreolus).";
 RL Anim. Reprod. Sci. 64:65-75 (2000).
 DR EMBL; AF152593; AAF73232.1; -
 DR HSSP; P49763; 1FZV.
 DR InterPro; IPR002400; GP_cybknot.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1.
 DR PRINTS; PR00438; GRCYSKNOT.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1.
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS00278; PDGF_2; 1.
 FT NON TER 1
 FT NON TER 1
 SQ SEQUENCE 78 AA; 9131 MW; 7EE20DDFFC17847C CRC64;

Query Match 82.6%; Score 71; DB 6; Length 78;
 Best Local Similarity 93.3%; Pred. No. 8.8e-06;
 Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 EESNTMQIMRIKPH 16
 |||||
 DB 36 EEFNTMQIMRIKPH 50

RESULT 9

Q8MI20 PRELIMINARY; PRT; 113 AA.
 AC Q8MI20;
 DT 01-OCT-2002 (TReMBLrel. 22, Created)
 DT 01-OCT-2002 (TReMBLrel. 22, Last sequence update)
 DT 01-MAR-2003 (TReMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor 182 isoform (Fragment).
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovoidae;
 OC Bovidae; Caprinae; Ovis.
 NC NCB1_TaxID=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Placental artery endothelium;

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RA  Chung J.-Y., Tsai S.C.M., Wen Y.-X., Magness R.R., Zheng J.;
RT  "Expression of VEGF receptors in ovine placental artery endothelial
RL  cells."
DR  Submitted (AUG-2002) to the EMBL/Genbank/DBJ databases.
DR  EMBL; AF534637; AA04108.1; -.
DR  InterPro; IPR000072; PD_growth_factor.
DR  Pfam; PF00341; PDGF_1.
DR  ProDom; PD001629; PD_growth_factor; 1.
DR  PROSITE; PS50278; PDGF_2; 1.
FT  NON_TER 1
SO  SEQUENCE 113 AA; 1335 MW; 2BF1C84E4F4858E CRC64;

Query Match
Best Local Similarity 93.3%; Score 71; DB 6; Length 113;
Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY  2 EESNTWQIMRIKPH 16
DB  3 EEFNTWQIMRIKPH 17

RESULT 10
OY  2 EESNTWQIMRIKPH 16
DB  3 EEFNTWQIMRIKPH 17

PRT; 118 AA.
AC  Q9MZB1;
DT  01-OCT-2000 (TREMBlrel. 15, Created)
DR  01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DE  01-MAR-2003 (TREMBlrel. 23, Last annotation update)
GN  Vascular endothelial growth factor (Fragment).
OS  VEGF.
OC  Ovis aries (Sheep).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC  Bovidae; Caprinae; Ovis.
OX  NCBI_TaxID=9940;
RN  [1]
RP  SEQUENCE FROM N.A.
RC  TISSUE=Placental artery endothelium;
RA  Zheng J., Tsai S.C., Magness R.R.;
RT  "Growth factor expression in ovine fetal placental artery endothelial
RL  cells."
DR  Submitted (MAR-2000) to the EMBL/Genbank/DBJ databases.
DR  EMBL; AF250375; AA75258.1; -.
DR  HSSP; P49763; 1FZV.
DR  InterPro; IPR000072; PD_growth_factor.
DR  Pfam; PF00341; PDGF_1.
DR  ProDom; PD001629; PD_growth_factor; 1.
DR  SMART; SM00141; PDGF_1.
DR  PROSITE; PS00249; PDGF_1; 1.
DR  PROSITE; PS50278; PDGF_2; 1.
FT  NON_TER 1
SO  SEQUENCE 118 AA; 13931 MW; 757DC53A56378A6 CRC64;

Query Match
Best Local Similarity 93.3%; Score 71; DB 6; Length 118;
Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY  2 EESNTWQIMRIKPH 16
DB  69 EEFNTWQIMRIKPH 83

RESULT 11
OY  2 EESNTWQIMRIKPH 16
DB  69 EEFNTWQIMRIKPH 83

PRT; 123 AA.
AC  Q9N1S1;
DT  01-OCT-2000 (TREMBlrel. 15, Created)
DR  01-OCT-2000 (TREMBlrel. 15, Last sequence update)
DE  01-MAR-2003 (TREMBlrel. 23, Last annotation update)
GN  Vascular endothelial growth factor isoform 165 (Fragment).
OS  VEGF.
OC  Capreolus capreolus (Roe deer).

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OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervoidae;
OC  Cervidae; Odocoileinae; Capreolus.
OX  NCBI_TaxID=9858;
RN  [1]
RP  SEQUENCE FROM N.A.
RC  TISSUE=Testis;
RX  MEDLINE=20532861; PubMed=11078967;
RA  Wagener A., Blotner S., Goritz F., Fickel J.;
RT  "Detection of growth factors in the testis of roe deer (Capreolus
RL  capreolus)."
DR  Anim. Reprod. Sci. 64:65-75(2000).
DR  EMBL; AF152594; AA73233.1; -.
DR  HSSP; P49763; 1FZV.
DR  InterPro; IPR000072; PD_growth_factor.
DR  Pfam; PF00341; PDGF_1.
DR  ProDom; PD001629; PD_growth_factor; 1.
DR  SMART; SM00141; PDGF_1.
DR  PROSITE; PS00249; PDGF_1; 1.
DR  PROSITE; PS50278; PDGF_2; 1.
FT  NON_TER 1
FT  NON_TER 123
SO  SEQUENCE 123 AA; 14354 MW; 0A756F54105A4CE1 CRC64;

Query Match
Best Local Similarity 93.3%; Score 71; DB 6; Length 123;
Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY  2 EESNTWQIMRIKPH 16
DB  36 EEFNTWQIMRIKPH 50

RESULT 12
OY  2 EESNTWQIMRIKPH 16
DB  36 EEFNTWQIMRIKPH 50

PRT; 124 AA.
AC  Q9GK00;
DT  01-MAR-2001 (TREMBlrel. 16, Created)
DR  01-MAR-2001 (TREMBlrel. 16, Last sequence update)
DE  01-MAR-2003 (TREMBlrel. 23, Last annotation update)
GN  Vascular endothelial growth factor (Fragment).
OS  VEGF.
OC  Callithrix jacchus (Common marmoset).
OC  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC  Mammalia; Eutheria; Primates; Platyrrhini; Callitrichidae; Callitrix.
OX  NCBI_TaxID=9483;
RN  [1]
RP  SEQUENCE FROM N.A.
RC  TISSUE=Oviduct;
RA  Welter H., Gabler C., Einspanier R.;
RT  "Growth factor expression in marmoset monkey oviducts."
RL  Submitted (MAY-2000) to the EMBL/Genbank/DBJ databases.
DR  EMBL; AJ278192; CAC19923.1; -.
DR  HSSP; P49763; 1FZV.
DR  InterPro; IPR000072; PD_growth_factor.
DR  Pfam; PF00341; PDGF_1.
DR  ProDom; PD001629; PD_growth_factor; 1.
DR  SMART; SM00141; PDGF_1.
DR  PROSITE; PS00249; PDGF_1; 1.
DR  PROSITE; PS50278; PDGF_2; 1.
FT  NON_TER 1
FT  NON_TER 124
SO  SEQUENCE 124 AA; 14548 MW; AA6F8CAFCFOA0CC CRC64;

Query Match
Best Local Similarity 93.3%; Score 71; DB 6; Length 124;
Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY  2 EESNTWQIMRIKPH 16
DB  58 EEFNTWQIMRIKPH 72

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RESULT 13

Q8SP29 PRELIMINARY; PRT; 124 AA.
 ID Q8SP29
 AC Q8SP29
 DT 01-JUN-2002 (TREMBLrel. 21, Created)
 DT 01-JUN-2002 (TREMBLrel. 21, Last sequence update)
 DT 01-OCT-2002 (TREMBLrel. 22, Last annotation update)
 DE Vascular endothelial growth factor (Fragment).
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Suidae; Sus.
 NCBI_TaxID=9823;
 OK NCBI_TaxID=9823;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Myocardium;
 RA "The expression of VEGF in porcine collateral-dependent myocardial by
 exercise training."
 RT Submitted (DEC-2001) to the EMBL/GenBank/DBJ databases.
 RL EMBL; AF461807; AAL85286.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1; 1.
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1;
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON_TER 124 124
 FT NON_TER 124 124
 SQ SEQUENCE 124 AA; 14552 MW; 281C1A009E67C9C9 CRC64;

Query Match

Best Local Similarity 82.6%; Score 71; DB 6; Length 124;
 Best Local Similarity 93.3%; Pred. No. 1.4e-05;
 Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 EESNTMOIMRIKPH 16
 DB 69 EESNTMOIMRIKPH 83

RESULT 14

Q8MJ86 PRELIMINARY; PRT; 131 AA.
 ID Q8MJ86
 AC Q8MJ86
 DT 01-OCT-2002 (TREMBLrel. 22, Created)
 DT 01-OCT-2002 (TREMBLrel. 22, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor-3 (Fragment).
 OS Capreolus capreolus (Roe deer).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Cervidae;
 CC Cervidae; Odocoilinae; Capreolus.
 NCBI_TaxID=9858;
 OK NCBI_TaxID=9858;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=Testis;
 RA Wagener A.; Fickel J.;
 RT "Detection of VEGF in roe deer testis."
 RL Submitted (MAY-2002) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF514284; AAM49789.1; -.
 DR InterPro; IPR000072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1;
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1;
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON_TER 131 131
 FT NON_TER 131 131
 SQ SEQUENCE 131 AA; 15358 MW; 99719A58EAC7FCA CRC64;

Query Match

Best Local Similarity 82.6%; Score 71; DB 6; Length 131;
 Best Local Similarity 93.3%; Pred. No. 1.5e-05;
 Matches 14; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 2 EESNTMOIMRIKPH 16
 DB 69 EESNTMOIMRIKPH 83

DB 14 EESNTMOIMRIKPH 28

RESULT 15

Q9ERL6 PRELIMINARY; PRT; 142 AA.
 ID Q9ERL6
 AC Q9ERL6
 DT 01-MAR-2001 (TREMBLrel. 16, Created)
 DT 01-MAR-2001 (TREMBLrel. 16, Last sequence update)
 DT 01-MAR-2003 (TREMBLrel. 23, Last annotation update)
 DE Vascular endothelial growth factor VEGF (Fragment).
 OS Mesocricetus auratus (Golden hamster).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Cricetinae;
 CC Mesocricetus.
 NCBI_TaxID=10036;
 OK NCBI_TaxID=10036;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Ramesh G.; Kondalah P.; Seeshagiri P.B.;
 RT "Regulation of expression of transforming growth factor-beta's by
 steroid hormone in the hamster uterus."
 RL Submitted (AUG-2000) to the EMBL/GenBank/DBJ databases.
 DR EMBL; AF297627; AAG16241.1; -.
 DR HSP; P49763; IF2V.
 DR InterPro; IPR00072; PD_growth_factor.
 DR Pfam; PF00341; PDGF_1;
 DR ProDom; PD001629; PD_growth_factor; 1.
 DR SMART; SM00141; PDGF_1;
 DR PROSITE; PS00249; PDGF_1; 1.
 DR PROSITE; PS50278; PDGF_2; 1.
 FT NON_TER 142 142
 FT NON_TER 142 142
 SQ SEQUENCE 142 AA; 16621 MW; F7DA16D924E499E CRC64;

Query Match

Best Local Similarity 82.6%; Score 71; DB 11; Length 142;
 Best Local Similarity 92.9%; Pred. No. 1.6e-05;
 Matches 13; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 3 EESNTMOIMRIKPH 16
 DB 54 EESNTMOIMRIKPH 67

Search completed: January 30, 2004, 11:44:42
 Job time : 16.5744 secs

